Oil, Paint and Drug Reporter.

EMBRACING THE
Drug, Paint and Oil Trade, New York Drug Bulletin, New York Druggists' Price Current, Soap-Makers' Journal, Oil and Paint Review, and Weekly Drug News.

OIL, PAINT & DRUG PUBLISHING CO., Proprietors.

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WEDNESDAY, MAY 21, 1890.

LEADING TOPICS THIS WEEK.

In memory of Franklin H. Tinker.
Congress talking tariff.
Pig lead advancing.
The window glass market.
Druggists still protesting.
Meeting of soap makers.
Scarcity of paraffine wax.
April petroleum statistics.
The corn starch combine.
Some pointers on phosphate.
Lard and tallow.
Meeting of the drug trade in this city and Philadelphia.
Meeting of the Chicago Paint Club.
Death of Messrs. J. H. Redington and W. P. Fuller, of San Francisco.

For Complete Table of Contents see page 33.

WEEKLY REVIEW.

The money market has been steady during the week under review. Money on call ranged from 15 to 2, the average for the week being about 5, and the closing figure was 5. Time loans rule at 4¼@6% for 60 days to 6 months.

The supply of commercial paper is fair and the demand is good. We quote 60 to 90 days indorsed bills receivable at 5@5½%, first class four months commission house names at 5½@6% and good single names (jobbers) having four to six months to run at 6@7. Following are the rates of exchange on New York: Savannah, buying par, selling ⅛@¼ premium. Charleston, buying par, selling ⅛@¼ premium. New Orleans commercial, 25@50c per $1,000 premium; bank, $1 per $1,000 premium. St. Louis, 90c per $1,000 premium. Chicago, 40c per $1,000 premium. Sterling exchange is dull and weak.

Sterling 60 days, nominal	4 84	@4	84½
sight, nominal	4 86	@4	86½
60 days, actual	4 83¼	@4	83½
sight, actual	4 85¼	@4	85½
Cable transfers	4 85½	@4	85¾
Commercial, 60 days	4 82¼	@4	82½
Paris cable transfers	5 16⅞	@5	16¼
60 days	5 19⅜	@5	18¾
sight	5 17¼	@5	16⅞
com., 60 days	5 21¼	@5	20⅝
com., sight	5 19⅜	@5	18¾
Antwerp, 60 days	5 21⅞	@5	21¼
Brussels, bankers' sight	5 20	@5	19⅜
Swiss, 60 days	5 18⅜	@5	17⅛
sight	5 17⅛	@5	16⅞
Reich marks (4) 60 days	95	@	95⅛
(4) sight	95⅛	@	95⅝
(4) nom., 60 days	94⅝	@	94¾
(4) com., sight	95⅛	@	95¼
Guilders, 60 days	40 1-16	@40	3/16
sight	40¼	@40	5-16
com., 60 days	39 13-16	@39	7/16
com., sight	40 1-16	@40	3/16
Copenhagen, Stockholm and Christiana, Krona, 60 days	26 11-16	@26	3/4
sight	26 15-16	@27	

FRANKLIN H. TINKER.

It becomes our sad duty to chronicle the death of Mr. Franklin H. Tinker, which took place at his residence in Short Hills, N. J., on Wednesday morning, May 14. His illness was brief, and the fatal termination was unexpected until comparatively a few hours before he died. He visited the city on the Saturday preceding his death and was at his desk in this office, causing his associates to regard his illness as but a temporary physical derangement. The announcement of his death on Wednesday therefore was a surprise for which his friends and associates were not prepared.

Mr. Tinker was born in the town of Ripley, N. Y., on August 2, 1852. His mother died in his early childhood and his father soon after removed to the West, settling finally at Depere, Wisconsin, and in this remote little lumber town all the formative period of Mr. Tinker's boyhood was passed. Here he obtained the ordinary common school education, working a part of the time in his father's saw mill. He early developed a passion for newspapers and magazines, which led him to establish a news agency in Depere; and this, it may be said, was the beginning of his career in connection with newspapers, for it was without doubt while conducting this agency that his boyish ambition was directed to the publication of newspapers.

Early recognizing that the limited field at Depere gave no opportunity to improve his condition or to eventually realize his hopes of business success, he obtained his father's consent to go out into the world, and in 1868 he went to Chicago where he soon secured a clerical position. Within a year after his arrival in Chicago, in connection with some of his associates, he established a magazine for young people, called *The Young Pilot.* This publication reflected great credit on the managers, of which Mr. Tinker was the most active and efficient, and early financial success seemed an assured fact when the great fire of 1871 swept away every vestige of the enterprise, with the exception of one file of the numbers issued up to that date, which Mr. Tinker preserved with care, and from time to time exhibited with a sort of affectionate pride, to the end of his life. This disaster did not quench his enthusiasm. He soon formed a new connection, and on arriving of age was one of the proprietors of the largest and most important story papers published in the West. In 1884 Mr. Tinker came to New York and the year following he associated himself with Mr. Charles T. Root, forming the firm of Root & Tinker, a firm which soon made a national reputation as successful publishers of trade newspapers, a specialty of the publishing business in which Mr. Tinker's indomitable will and tireless perseverance made success certain. His connection with THE REPORTER, begun in the Spring of 1883, is familiar to most of our readers, he being at the time of his death treasurer and managing director of the Oil, Paint and Drug Publishing Company, in which capacity he had become acquainted with most of the patrons of the paper.

Mr. Tinker had the happy faculty of attracting friends and insuring the loyalty of his associates and employes. He possessed in a marked degree all the qualifications requisite in a successful publisher, being active, with quick perception, self-reliant, an excellent judge of human nature, and an enthusiastic lover of his chosen profession. To these qualities he added a charming manner that made him a host of friends, in fact his social life may be said to have been even more successful than his business life. With such a man family relations could not have been otherwise than happy. His love of home was shown in the comforts with which he surrounded his loved ones, and in this was an opportunity for the display of his cultivated taste in matters of art and literature, his home being enriched with a most carefully and judiciously selected library and embellished with many artistic gems.

CONGRESS TALKING TARIFF.

The consideration of the McKinley Tariff bill has engrossed the attention of the members of the House of Representatives during the past week, and considerable progress has been made, sufficient to warrant the belief that the bill will be put to a final vote in a few days. It is yet time, however, to forward protests, and the General Committee of Importers, whose sub-committees have been busy for about a fortnight making up statements of how the proposed tariff changes will affect their trades, will probably formally present the reports to-day. Whatever it is proposed to do in the way of protests or memorials should be done at once. The debate has been devoted mainly to matters in which our readers are not directly interested, so far as their business interests are concerned, but they show that the general tendency is in favor of the bill, and that protests will probably avail little. The talk has been largely about the effect of the bill on the interests of the farmer, and the object of this is patent. Among the amendments passed was one affecting the drawbacks to be allowed. Section 24 was amended to read as follows:

That, where imported materials, on which duties have been paid, are used in the manufacture of articles manufactured in the United States, there shall be allowed on the exportation of such articles a drawback equal in amount to the duties paid on the materials used, less 1 per centum of such duties; provided that the articles, when exported, are made in part from domestic materials, the imported materials, or the parts of the articles made from such materials, shall so appear in the completed articles that the quantity or measure thereof may be ascertained.

It provided, further, that the drawback on any article allowed under existing law shall be continued at the rate here provided. That the imported material used in the manufacture of articles entitled to drawback customs duties, when exported shall, in all cases where drawback of duties paid on such materials is claimed, be identified, the quantity of such materials used, and the amount of duties paid thereon shall be ascertained. The fact of the manufacture of such articles in the United States and their exportation therefrom shall be determined, and the drawback given thereon shall be made to the manufacturer or exporter, to the agent of either, or to the persons to whom such manufacturer, exporter or agent shall, in writing, order such drawback paid, under such ragulations as the Secretary of the Treasury shall prescribe.

THE WINDOW GLASS MARKET.

A meeting of window glass manufacturers and jobbers was held in Chicago last Wednesday for the purpose of adjusting certain difficulties that had grown up between the two branches of trade because of the alleged cutting of prices by the jobbers. Information regarding the cause of the difficulty is rather meager, but from what we gather it may be inferred that the Western jobbers, having been disappointed in the condition of trade this spring, owing to the labor disturbances in the building branches, have been seeking to reduce their stock prior to the advent of warm weather, by offering to undersell manufacturers' prices. This having threatened to demoralize the Western market and at the same time interfere with a plan of the manufacturers for strengthening the position of window glass, the conference was held as stated.

Although the result of this meeting is not definitely known here, it is thought that a satisfactory arrangement was made, whereby the prices fixed by the manufacturers will, hereafter, be observed by the jobbers. Apart from the episode of the recent building trade strikes, the American window glass market appears to be in better shape this spring than it has been at the same season for several years past. The manufacturers are working together more harmaniously, as was shown by the attendance at the meeting held two weeks ago for the purpose of deciding upon the time of terminating the blast. The season has been a prosperous one and stocks in the makers hands have been closely absorbed. It has been decided to go out of blast a little earlier than in former years, one-half of the number of factories shutting down on the first of next month, and the balance fourteen days later. This decision, we believe is not final, and may be modified at the meeting to be held on Thursday of this week. It is believed that the action ordering the shut down, as above mentioned, was taken for the purpose of forestalling a demand for an advance in wages which it was understood the workers were about to make.

The importers of French window glass have also been having some trouble with the jobbers, though of a different kind from that experienced by the American manufacturers. The importers have an agreement, by which they bind themselves under oath not to sell below prices fixed by their association, but there seems to have been no clause in this agreement prohibiting the sale of small quantities at the the same price as the largest buyers pay. The large jobbers complained of this as an injustice and hardship and at last prevailed upon the importers to make such modifications in their quotations as would allow a fair margin between the price on large lots and the quantities sold to small dealers. The importers met in Boston last Wednesday, and after the usual discussion of trade affairs in general, decided to arrange their discounts so that the jobber who buys fifty boxes or more within a calendar month will have an extra discount of five per cent. Smaller buyers, will until further notice, be allowed seventy-five and ten per cent. instead of seventy-five ten and five, as heretofore.

PIG LEAD ADVANCING.

There has been of late, a rather freer movement in pig lead which may be attributed, in part, to the fact that consumers have been forced into the market by their necessities and have bought on a more liberal scale than they were disposed to do a few weeks ago when prices were unsettled and the tendency of the market appeared to be downward. This increase of interest among the users of lead has served to strengthen the market which, however, owes its tone in the first instance to other, and possibly under the circumstances, more potent influences. Before consumers showed an inclination to operate on a larger scale than they had been doing for some time past, there were evidences of an improvement in the market, the indications pointing to a moderate advance, at least.

This market has been, for some weeks, below the parity of St. Louis, and consequently little stock has been coming here from that quarter, outside of what has been arriving on account of the Trust. The local trade has been supplied from the balance of the old Corwith stock, which is controlled by two or three strong holders. This stock although quite heavy when it first passed into the hands of the

operators above referred to, must be pretty well reduced by this time and this probability, in connection with the light receipts from the West, would be a sufficient cause for an upward movement in values, without the assistance of an increased demand from consumers. There is still another reason for improvement, and one which from the standpoint of speculative operators, is more important, as bearing upon the future of lead, than the present apparent short supply or the revival of consuming demand. It is, however, too much of an uncertainty as yet, to be classed as an active factor in the situation. We refer to the duty of one and one-half cents per pound on lead in imported ore, as proposed by the McKinley bill. It is generally believed in the trade that this proposed tax will be made a law, but there are a few who entertain the belief that it will not, basing their opinion upon the knowledge that some of the largest smelters in the United States, who are heavily interested in Mexican ores, (against which this provision of the bill is aimed) would be seriously crippled if not ruined by the passage of the bill in its present shape, and are using every effort to prevent its adoption. They succeeded in having three amendments to the bill introduced in the House last Monday, but unfortunately, for them, all were defeated. The first amendment provided for the striking out of the provision imposing a duty on lead contained in imported argentiferous ores, and the second sought to reduce the rate of duty to half a cent per pound. The last amendment provided, substantially, that silver lead ore should be admitted free of duty whenever the Mexican Government should have repealed the duties on certain imports from the United States. These efforts having failed, no doubt others will be tried as soon as the opportunity offers.

Should the bill as at present drawn become law it is claimed that importations of Mexican silver lead ore will entirely cease. In that event a sharp rise in the price of pig lead would be sure to follow since the present production of this country is inadequate to the requirements of consumption. It does not follow, however, that we cannot produce enough lead to supply our own needs. We have the resources provided sufficient inducement is offered to warrant their development. The effect of the stoppage of Mexican lead ore imports will no doubt be to force the market up above four and a quarter cents per pound, and possibly as high as four and a half cents per pound, which would furnish all the inducement that American producers require. It is on such a possibility as this that speculative buyers are now operating and their inquiries for, and purchases of July and more distant futures have, in connection with the demand from consumers, caused an advance within the past few days to four and fifteen one hundreths cents, and may, possibly, carry the market up to four and a quarter cents.

DRUGGISTS STILL PROTESTING.

The notorious Senate bill 279 receives more attention this week, as will be seen by reference to another page containing accounts of two meetings of wholesale druggists and manufacturing chemists in this city and Philadelphia, and if agitation will accomplish anything, it ought to have the desired effect in this case. The title of the bill is misleading, and should read, "to destroy the compound drug and food industries of the United States." Its utter worthlessness is summed up in the words of Mr. Kline, who remarked at the Saturday meeting that the number of the bill is the only thing in the whole measure worth retaining, and it is not necessary for the REPORTER to repeat what has been said in previous issues concerning the objectionable features of the proposed legislation.

The present case requires heroic treatment, and ammunition is wanted from every prominent city in the Union in the shape of remonstrances framed in strong, unmistakable language, not only from the drug trade, but from the lard interests, and from all parties identified in any way with compounds and proprietary articles. A combined effort will have to be made to retire the obnoxious bill to oblivion by recommending the passage of a proper substitute. Very little, if any relief can be expected from the Committee on Agriculture, and the struggle will probably be removed to the floor of the Senate or House, where evidence has to be submitted in defense of the industries affected by the bill.

The Philadelphia representatives of the drug trade have fought the battle almost alone until recently, and they should receive credit for calling attention to the matter and for the progress made in Washington through active individual efforts. They know what to expect from the Agricultural Committee and from the special agent of the Agricultural Department, who seems to be recognised as the leader in shaping the adverse legislation, and apparently is opposed to the views advanced by the drug trade. As the case has to be looked after in the halls of Congress, protests are wanted from every direction, and they should be submitted promptly. A new York Committee is now at work formulating arguments against the bill, and it will co-operate with similar committees in diferent trades.

MEETING OF SOAP MAKERS.

A number of soap manufacturers in this and other cities accepted an invitation to attend a meeting in New York last week to promote a fraternal feeling in the trade. Many of the gentlemen met for the first time and the gathering being informal, there was a general interchange of opinions on various subjects. There was no effort to form an organization, but as the meeting has broken the ice, and demonstrated that most of the manufacturers are in favor of a mutual understanding and uniform action in the treatment of trade evils, it is safe to conclude that some definite result will be reached in subsequent meetings.

It is not only the desire to smooth over the rough edges of competition by cultivating fraternal relations, but to consider the benefits that would accrue to the trade in general by having concerted action in many matters outside of questions of production, prices and brands. The manufacturers are inclined to feel sensitive over the three subjects named, and no doubt wish it understood that the meetings have no reference to the regulation of their business on those points. After the object of the conferences become fully understood, there is no reason why they should not be made a permanent national feature and receive the hearty approval of the manufacturing trade. Association and agitation are great engines of power when entered into with enthusiasm, and there is no reason why soap makers should not find it as acceptable a way of correcting abuses, as so many other manufacturers have already done.

SCARCITY OF PARAFFINE WAX.

Never before in the history of the business has crude paraffine wax been in such limited supply both here and abroad, as at present. The stock in possession of the eight Scotch companies who are included in the international agreement, is not over one thousand tons, while jobbers there have none to offer. An idea of the significance of this statement can be based on the fact that at no previous period have stocks in Scotland been less than three thousand tons. American exporters have none to offer and orders are being refused at the advance to five and a quarter cents, which is evidence that supplies here are about exhausted. The market is in a nominal position but would no doubt become much stronger if there was any crude stock on hand. It is safe to say, however, that prices will be at least one-half cent per pound higher on future supplies, as the Scotch makers have agreed to ask more money for their scale product after the first of next month.

The cause of the sensitive position of wax is believed to be the increased consumption, principally in the candle trade. The movement into consumptive channels exceeds the production and the latter is fully up to the supply of raw material—so far as manufacturers in the United States are concerned who exported 36,000,000 pounds during the past nine months, which is an increase of 12,000,000 pounds. Under the circumstances it would seem as if the pressure must continue, but the summer months may give an opportunity for the accumulation of stock until operations in the candle trade are resumed in the autumn. Enhanced values for wax means a corresponding change in prices for candles.

APRIL PETROLEUM STATISTICS.

The reports of the several pipe lines for the month of April make little alteration in the general statistical situation from that indicated by the reports of the two principal lines commented upon last week. The total production for the month was 2,328,870 barrels, an increase over March of 15,900 barrels. This increase is smaller than was expected it would be, and therefore the effect was rather bullish, especially when it was taken into consideration that the deliveries showed an increase of 164,592 barrels, the total deliveries during April having reached 2,346,823 barrels. This makes a difference between runs and deliveries of 17,945 barrels, or an excess of deliveries over runs to that amount. The total stocks on the first of May amounted to 10,444,762 barrels, the reduction for the month being 17,791 barrels. While this reduction may be regarded as of little account, taken in connection with the increase of the previous month, it is regarded as important, the natural inference being that production had been brought to its highest development during March. As the price of crude has ruled lower it is believed that the search for oil will not be prosecuted with as much vigor as when the price ranged above one dollar, notwithstanding that weather conditions are more favorable, and that there is consequently little prospect that the production will be materially increased during the summer months. This, however, is uncertain, as it depends entirely upon the productiveness of the wells now in course of completion. An important feature of the statement, and one likely to have more influence on the course of the speculative operators, is the reduction in the amount of cirtificates outstanding. The decrease during the month amounted to over 190,000 barrels, the total now outstanding representing 4,326,964 barrels. The higher range of prices since the reports were made public have doubtless been due to this feature.

The official statement of the exports of petroleum for April, issued by the Bureau of Statistics, shows an increase in the total exports of 1,764,320 gallons as compared with April last year, but the exports of illuminating oil show a decrease of 1,665,405 gallons. The exports of crude show an increase of 2,994,073 gallons and the exports of naphtha 291,710 gallons. For the period of ten months ending April 30, as compared with the same period of last year, the total increase was 37,924,535 gallons. For this period there was an increase in the exports of illuminating oil of 18,738,124 gallons, of crude 14,306,916 gallons, of residuum 580,330 gallons, and of lubricating oils 4,854,507 gallons. Naphtha alone shows a decrease to the extent of 647,352 gallons. Altogether the statement may be regarded as satisfactory in view of the fact that the exports during the earlier months of the present year were smaller and had given rise to the fear that competition abroad had made serious inroads on our foreign trade.

THE CORN STARCH COMBINE.

The officers of the corn starch combine have found it necessary to devote considerable attention to the corn market and to arrange prices for starch accordingly. The tendency has been higher since the new power assumed control and there are indications that the changes in the near future will be in the same direction. There has been a mistaken idea that the corn market was being manipulated in the interest of the starch manufacturers—an undertaking which is viewed as impossible, owing to the many scattered interests in that line of business. Some of our readers may consider it a parallel case with flaxseed, the crops of which are generally believed to be controlled largely by the organization in the linseed oil trade, but a little study of the situation will show the different methods pursued in handling the two artitles, and the difficulties which would have to be surmounted in attempting to concentrate stocks of corn.

The question of middlemen has not been definitely decided by the starch interests, but an aggressive undertaking on the part of large jobbers in the grocery line has been nipped in the bud by the leaders in the movement being influenced to assist the starch combination. It is understood that a quietus was put to the opposition by a distribution of cheap stock in the controlling corporation, and since then all talk about a large competing starch factory to be operated by the wholesale grocery trade has ceased. The entire field is now occupied by the new controlling power, and it remains to be seen whether prices will be maintained at such a profitable point as to encourage fresh competition, or a scale adopted which will make a fair profit possible under the present economical methods of working.

SOME POINTERS ON PHOSPHATE.

The tremendous growth of the phosphate industry is to be seen in the large shipments made from Charleston during the last eight months, amounting in the aggregate to 260,169 tons, or an excess of 87,577 tons over a similar period of the previous year. This increased percentage of fifty and three-quarters demonstrates the popularity of phosphate rock as a constituent of artificial or commercial fertilizers and gives assurance of greater results in the future, when the state of Florida will come in for a large share of the patronage now enjoyed by the South Carolina companies.

Considerable has been said from time to time concerning Canadian phosphate, and a fear was expressed not long since of the competition from that quarter. Statistics of production have been kept from public view for some reason or other, and parties engaged in the American industry did not know what to expect. We learn, however, through the president of a Canadian company controlled in Great Britain, that the total shipments of Canadian phosphate rock amount to about 30,000 tons per year, the company referred to handling one-fifth of the quantity named. That is a light business when compared to the Charleston industry, and is due either to the lack of enterprise in pushing the pro-

duct forward or to the want of capital in developing the deposits and grinding the rock. According to the same source of information, considerable money was lost in prosecuting the business during the first six months of last year, and it was found necessary so advance values to make accounts balance. The situation in Canada has a more hopeful aspect and dividends are expected from the operations this year, but unless a larger outlet is found for the product than now exists, the question of profit and loss will continue to be an uncertain element.

LARD AND TALLOW.

It has been claimed that exports of lard show a decrease and the cause was attributed to the agitation of compounds in Congress. The fact is, as recorded in the official tabular statements issued by the Government, that the movement of lard to foreign ports is largely on the increase and that the shipments during the past six months show a remarkable change in favor of American lard. The exports for six months to May 1 were 260,385,527 pounds, against 181,441,271 pounds for the same period last year. There was also an increase of 12,000,000 pounds last month, as compared with the same month in 1889. Such evidence proves that the agitation in Washington has been beneficial.

Tallow exporters have likewise experienced an unusually active trade during the half year under review, and they can look over their accounts with the satisfaction of having done a much larger business even if the profit was meager. Over 50,000,000 pounds were sent abroad during the six months at a value of $2,435,912, and the movement in April aggregated over 8,000,000 pounds, exceeding the same month last year by 500,000 pounds. The increased orders are being filled apparently without the knowledge of the general trade, and we give these facts to show that both lard and tallow are two of the most active articles on the list.

TRADE ITEMS.

Mr. Wm. R. Warner will sail by the Etruria next Saturday on an extended European trip.

A $25,000 stock company is being organizd in Alexander, Ala., to erect a cottonseed oil mill and fertilizer factory.

Mr. Solomon Carter, of Boston, was in the city yesterday, on his way home from a tour through the Southern States.

Mr. James E. Davis of Detroit was in the city for several days last week on business, and reported trade active in his line of goods.

Roanoke, Va., proposes to hold an exposition in 1892 to present the resources of Virginia, and particularly Southwestern Virginia.

It is reported that the manufacture of caustic soda by a new process will shortly be introduced by one of the Tyne (Eng.) makers of chemicals.

Messrs. Schoellkopf, Hartford & Maclagan, who are among the largest dealers in cascara sagrada, received last week a fine sample of the new crop.

The factory buildings of the Atlantic Starch Works, Brooklyn, N. Y., which were destroyed by fire on May 9, will be immediately rebuilt on an increased scale.

The Locust Paint Company has been organized at Chicago to manufacture oils and paints; capital stock $50,000; incorporators, O. A. Locke, E. J. Locke, E. E. Hart.

The Henry Medicine & Land Co. has been chartered to erect and operate a medicine factory in Roanoke, Va., the capital stock to be not less than $5,000 nor more than $50,000.

H. Hardinghaus, Jr., Alfred Hess, J. H. Miller and others have incorporated the Queen City Varnish Co. to start a varnish factory in Covington, Ky. The capital stock is $30,000.

Mr. F. G. Trunkett, of the B ston office of Messrs. Howe, Balch & Co., has been in the city during the past week. His trip was solely a business one and he returned to Boston on Monday.

The cultivation of opium has been commenced in Russia, in the Lipowetz district of the government of Kieff. The opium yielded by the first crop of the plants contained 5·13 per cent. of morphia.

Mr. Wm. F. Sykes, of Messrs. Sykes & Street, returned from a week's fishing trip in New Hampshire on last Monday. With characteristic modesty he refuses to tell the weight of his largest piscatorial victim.

The annual letting of contracts for furnishing the Indian service with supplies will take place in New York, beginning to-day at 1 o'clock. This year's contracts will probably aggregate something over $2,000,000.

An application to appoint a liquidator for the Manicougan Fish Oil and Guano company of Montreal, has been made by Mr. Janus K. O. Sherwood, banker, of New York, who has a claim of $25,427 against the company.

Mr. R. Sherburne, Chairman of the Glass Importers' Association passed through the city last week on his way home to Boston from Washington, and stopped for a short time to call on his friends in the trade here.

A cotton-oil mill, to be located at Manchester, is to be another acquisition to suburban Fort Worth, Texas. The establishment will be one of the largest in point of capacity in the State. The plant alone will cost $160,000, and it will employ about 125 men.

It is stated that rich discoveries of genuine asphaltum have been made in the northwest portion of Logan county, Ky., and that great excitement prevails among land owners in that section, where wild lands which had been selling at $1 per acre are now bringing $20 and $30.

Mr. H. P. Patton, of the Chambers & McKee Glass Company of Pittsburg and Jeanette, Pa., and Mr. A. C. Dravo, of Messrs. S. McKee & Co, Pittsburg, were in the city last week. Mr. T. D. Catlin, President of the United Glass Co. of Chicago, and Mr. W. F. Gray, vice-president of that corporation, were also among the visitors to the local glass trade.

The Kanawha City Co. has organized in Charleston, W. Va., with W. A. McCorkle, president; I. Yost, of Iron Gate, Va., vice-president, and T. O. M. Davis, of Winifrede, secretary, and expects to establish soda ash and other chemical factories. $200,000 have been reserved for general improvements. The capital stock is $540,000.

According to the annual report of the directors of the Amsterdam Quinine Works, the results of the year 1889 were satisfactory. The deliveries of quinine sulphate (irrespective of other quinine salts) from the works during the past year have been about 400,000 ounces, and the accounts show a profit sufficiently large to admit of the payment of a dividend of 6 1-5 per cent.

According to recently published returns, the shipments of soda ash and alkali from the Tyne district, England, show a decrease of 410 tons for April, compared with those for the same month a year ago. Shipments of bleach increased 1,243 tons, while the exports of sal soda were 219 tons more than those in April last year. Last year in April only 6 tons of sulphate of soda were shipped from the Tyne, while this year 87 tons were sent out.

The case of Messrs. Chambers, McKee, Campbell and Slicker, charged with violating the alien contract labor law in having, as alleged, brought to this country under contract a number of English glass workers to work in the factory at Jeannette, Pa., came up for hearing in the United States district court in Pittsburg, last Thursday. The verdict entirely exonerated the defendants of the charge of having purposely or unintentionally violated the law.

The chemical works of Hoffmann & Schotensack, in Ludwigshafen, Germany, according to the balance-sheet just issued, appear to form an exception to the general prosperity of the chemical industry in Germany in 1889, says the *Chemist and Druggist*. In the year 1888 these works had a profit of 171,359m., but the accounts for 1889 show a loss of 9,553m. This unfavorable result is attributed to a variety of causes, such as the effluxion of the Kolbe patent for the manufacture of salicylic acid, and the fact that the manufacture of several articles, having ceased to be profitable, had to be abandoned or placed on a different footing. In the place of these the manufacture of a series of what promise to be profitable articles has been commenced.

Adulterations of drugs and food products should not be tolerated, but the Philadelphia Drug Exchange is quite justified in protesting strongly against the passage of the bill now before Congress, whose purpose is stated to be to prevent such adulterations. Its main effect would be to greatly increase the power and influence of the Secretary of Agriculture, and give him control of thousands of employes, where he now has one. It would certainly prove a burden upon the drug trade, and, in accomplishing its purpose—if it should do so, which is doubtful—would introduce evils almost as great as those it removed. As we understand it, the Drug Exchange is not opposed to a law prohibiting and preventing adulterations, providing it is reasonable in its provisions, but it is opposed to this act, which has apparently been drawn to give the Secretary of Agriculture something to do to justify his exaltation and increase his political power.—*Philadelphia Ledger*.

PETROLEUM NOTES.

Ira De Witt and A. E. Fretts, of Pittsburg, have, it is reported, purchased 3,000 acres of oil land near Ritchie C. H., W. Va., and will develop.

L. F. Roush, J. W. S. Sheppard, John Oblinger and others have organized the Mason County Oil & Gas Co. to sink oil wells near New Haven, W. Va.

It is stated that a company has been organized to develop gas and oil lands and secured an exclusive 30-year franchise to pipe Russellville, Ky., with gas.

Work will shortly be commenced on the Carnegie Natural Gas Line, from the Washington County field to supply the Homestead Steel Works. Carnegie, Phipps & Company secured about 10,000 acres of land in the county named, and five producing wells are ready to be run into the line. The main pipes will be sixteen and twenty inches in diameter, to cost $500,000.

The Russian petroleum pipes will be of cast iron, eight inches in diameter, and there will be sixty-four intermediate stations. The pipes must be buried at a considerable depth to guard against cracking in the intense frost and cold. The entire petroleum shipments from Batoum since January 1, 1890, have been 40,718,077 gallons, while at the same time last year they were 42,603,560 gallons.

The oil industry in this country, says the New York *Star*, is threatened with formidable competition in Mexico. The recently discovered deposits near Chihuahua are about to be worked by a strong syndicate formed of both Mexican and American capitalists, who have expressed their intention of spending $500,000 on machinery before they begin to take out petroleum in any quantity.

Prominent Ohio producers and operators claim that Ohio crude will go to fifty cents a barrel shortly, and then become certificate oil, while the Pennsylvania product will be reduced in price to seventy cents and be made premium oil. As soon as Ohio crude is recognized as certificate oil the exchange in Findlay will be opened for business. The arrangments for this institution have all been completed, and those at the head of the exchange are only awaiting the conversion of the character of the home product into a trading commodity.

The difficulties experienced by the French Company in boring their petroleum wells at Chongalek, Russia, to which the British Consul has heretofore called attention, have not been surmounted. He is informed that the nature of the soil through which the wells have to be sunk is such that the pipes are constantly being choked. This prevents the petroleum from flowing to the surface, but it is hoped that the continual and energetic labors of the persons engaged at the work will eventually be crowned with success and this difficulty overcome.

A dozen of the largest oil producers in the hundred-foot field have entered into an agreement to shut down all wells, whether drilling or pumping, on Sunday, and making a canvas of the field for the purpose of getting others to join in the movement. Those who have already gone into the shut-down will stop all work on their leases on Saturday nights. The project is looked upon favorably by nearly all the operators except those who have a larger production of salt water than oil. The latter class assert that a day's cessation of pumping would permit an accumulation of salt water which would ruin their wells.

In the Alleghany, N. Y., field Rhodes, Willis & Reynolds are in the sand on the Dover farm, with a showing for a 5 barrel well. The Alleghany Oil Co.'s well on the Haley farm, is doing about 12 bbls. The Olean Gun Co. are spudding on the Geiger farm. Nenno Bros., on the Nenno farm, are rigging up. Rhodes & Fornes have a rig up on the Freeland farm. J. L. Alexander, on the Doloph farm, is fishing for a bailer at a depth of 900 feet. On the same farm he has a rig up and is drilling on the Burdick. The Alleghany Oil Co. is building a rig on the Haley farm, as are Conklin & Ramsey on the Zink. The Corry Hollow well is dry.

There is an evident anxiety and uneasiness of feeling among the manufacturers of Pittsburg, concerning the supply of natural gas in the Pittsburg region. The supply has become so uneven and unreliable in many quarters that manufacturers are seeking other fuel supplies. Oil gas plants have been placed in a number of iron and steel mills and are running now in conjunction with the natural gas, and are intended to take its place unless present indications fail. In Johnstown, Pa., within a short time Archer oil-gas plants have been substituted for natural gas in three mills. The natural gas supply appears amply sufficient for domestic or house purposes, but it is not inexhaustible, and its use for manufacturing purposes has already exceeded the capacity of the fields.

The annual meeting of the Philadelphia Petroleum and Stock Exchange was held last week. The report of President Davis showed that 121,412,000 barrels of petroleum had changed hands during the year, and 2,552,300 shares of railroad and miscellaneous stocks. The Finance Committee's report exhibited the income and expense accounts for the year, and showed the balance on hand to be $8,500. One member died during the year and the usual gratuity of $1,000 was paid to his family. The following officers were elected to serve during the ensuing year: President, Francis F. Milne; Secretary and Treasurer, William H. Pettit; Representatives to Conference, R. H. Austin and William M Benerman; Governing Committee, R. H. Austin, William M. Benerman, William M. Carter, J. S. Doughty, S. A. George, L. Gilbough, Charles Kane, F. F. Milne, E. P. Moxey, H. C. Stratton and J. W. Thompson.

The British Consul states that the imports of kerosene oil into Kiangchow, China, shows an enormous increase, and is, indeed, the only article either in exports or imports that shows well on the list. For lighting purposes it appears to have entirely taken the place of ground-nut oil, and its increased use is greatly due to the introduction of cheap lamps. The lamps for burning it can be bought for 30c., and even cheaper ones made of pottery in the shape of a tea-pot, the wick coming through the spout, for 15 cash—rather more than a halfpenny. There is a likin tax leviable on kerosene oil equal to about 2s 6d per case, but as this is farmed for the whole province by a Chinese in Canton, and as this latter has made no provision for the enforcement of the payment no notice of it is taken. To guard against its being put in force, however, all kerosene oil is entered in the name of foreign hongs, who, of course, would not be liable to the levy.

OBITUARY.

LEWIS C. PAINE.

A prominent business man and one of the oldest residents of Wilkesbarre, Pa., died in that city on Friday, the 16th inst. Mr. Paine was the pioneer in the oil trade of that section of the State, and a member of the firm of L. C. and J. C. Paine for a number of years, who did a large and successful business as jobbers in petroleum oils at Wilkesbarre, Scranton and Elmira. Mr. Paine had a large acquaintance in mercantile and financial circles, and was closely identified with the principal enterprises of Wilkesbarre.

Deceased was born at Perth Amboy, N. J., March 26th, 1827, and was 63 years of age. He was a son of Captain Jedediah Paine. Under his farther's command he became familiar with the life and duties of a seaman—was trained to it from his infancy. At the age of fifteen years he was an officer on his farther's vessel and visited many parts of the world.

W. P. FULLER.

The paint trade on the Pacific Slope has lost a prominent and highly respected member in the person of Mr. W. P. Fuller, of the firm of Whittier, Fuller & Co., white lead corroders and manufacturers of paints in San Francisco, who died on Saturday from a stroke of apoplexy at the age of 63 years. Mr. Fuller was among the many persons who left the New England States in 1849, during the gold excitement and located in San Francisco. He started into the wall paper business and soon after included paints. Mr. Whittier was also in the same line of business, and about eighteen years ago they decided to consolidate their mercantile interests. The firm of Whittier, Fuller & Co. was then formed and the house became one of the most important in the trade. The bereaved family consists of a wife and six children. One of the daughters is the wife of Mr. Edward H. Raynolds, of the firm of C. T. Raynolds & Co. She was with her father at the time of the sad event, having left this city a few days previous for a visit home. Mr. W. P. Fuller, Jr., is an active member of the firm, and the death is not expected to cause any change in the affairs of the house.

JOHN H. REDINGTON.

Mr. John H. Redington, the founder of the wholesale drug house of Redington & Co., of San Francisco, died from paralysis at Santa Barbara, on May 17, at the age of 68. Mr. Redington was born at Waterville, Me. He was among the first of the enterprising New England men to go to California on the discovery of gold in 1849. In connection with Charles R. Story he established a wholesale drug house in San Francisco, under the name of Story, Redington & Co. After a few years Mr. Story withdrew and the firm was changed to that of Redington & Co., which it has since remained. In 1859 Mr. Andrew G. Coffin became a member of the firm and the resident partner in New York, and established the branch house under the firm name of Coffin, Redington & Co.

The wholesale drug business started by Mr. Redington forty years ago has been always judiciously and carefully managed, and has grown to be one of the largest in the country. Owing to failing health Mr. John H. Redington retired from the firm of Redington & Co. on the 1st of January, 1885, and has since resided at Santa Barbara, Cal. He has also been prominently connected with many other business enterprises in California, among which may be mentioned the Redington Quicksilver Mining Company, the Home Mutual Insurance Company of San Francisco, and the Commercial Bank of Santa Barbara. He was a gentleman that possessed excellent business qualifications, sterling integrity and a pleasant, genial disposition, which endeared him to a host of friends who will all mourn his loss.

MISCELLANEOUS.

Protesting Druggists.

A special meeting of the members of the Philadelphia Drug Exchange was held on Friday to hear the report of the Committee on Legislation and to take action with reference to Senate bill No. 279, providing for the prevention of adulteration and misbranding of food and drugs, the prevention of poisonous adulterations, and for other purposes. In presenting the following report of the committee, Mr. M. N. Kline said he thought the bill would be reported favorably, notwithstanding the protest made against it.

"Senate bill No. 279, now in the hands of the Senate Committee on Agriculture, and House bill No. 8,248, now in the hands of the House Committee on Agriculture, both proceed on the assumption that all manufacturers and dealers in food products, drugs, confectioners and brewers, adulterate.

"Both bills provide for the appointment by the Secretary of Agriculture of a chief at a salary of $3,000 per annum, and the employment of chemists, inspectors, clerks, laborers and other employes, of sufficient number to carry out the provisions of the act. The Secretary of Agriculture in both bills is invested with almost unlimited power in dealing with all the above classes. In section 5 of the Senate bill, and in section 9 of the House bill, it is provided that all manufacturers, manipulators, compounders and mixers of compound food or drugs shall be required to apply to the Secretary of Agriculture for a license, for which thay shall be required to pay the sum of $10. This, in our estimation, would not only provide for a revenue amounting to hundreds of thousands of dollars—would not only be an additional burden so far as it affects the drug trade, which class is already taxed in a number of ways as though the business was illegitimate, but inferentially gives this autocrat of the Agricultural Department the power to cause inspections of premises and processes to be made, which might prove exceedingly embarrassing to manufactures of food products, sugar refiners, brewers and manufacturers of medicinal preparations, all of which are certainly included in the provisions of the bills as now printed.

"While this bill proceeds upon the assumption, as above stated, that all such manufacturers are dishonest, and all articles are to be analyzed, and that the result of all such analyses to be published, no provision is made for redress should some analysis be faulty or incorrect, and should the party whose preparation is so branded by error be subjected to loss by reason of having his reputation assailed in this public and reckless manner by United States Government officials. It should be remembered that the term 'drug,' as used in both of these bills, is defined to mean all articles used as medicine, either for external or internal use, and that the term 'food' shall include every article used for food or drink by man other than drugs or water. The bill proposed by our committee is drawn upon the lines of English law, which provides for the appointment of properly qualified analysis in various parts of England to whom articles suspected or complained of can be taken for analysis after a sample has been left by the purchaser with the party accused, and if such analysis shows the article to be adulterated within the meaning of the act, then to be proceeded against by a proper public officer, a proper hearing is provided for in the courts and a defense allowed as public in its character as the complaint is.

"No party is there set up as judge, jury and executioner as in this bill, notwithstanding the fact that we live under a government which is supposed to provide greater liberty than that of England.

"Your committee is impressed with the conviction that this bill, with the above autocratic powers and the large revenue, is uncalled for in the interest of the general welfare, but is pressed in its present shape by those interested in giving the agricultural department greater power, and receives the recognition it does by reason of the large number of petitions printed in Washington, circulated from there amongst the various granges and farmers' alliances throughout the United States, signed by individual members, and then used by Mr. Wedderburn as representing the wishes of a large number of voters, who are all probably as ignorant of the purpose for which these petitions are used as they are of the uncalled for provisions of the proposed measures."

Mr. Kline stated that on Tuesday morning he, together with Mr. A. H. Jones, chairman of the Committee on legislation of the National Wholesale Druggists' Association, and other members, waited on the Senate Committee on Agriculture and had interviews with Mr. Paddock, its chairman, Mr. Wedderburn, the agent of the committee, and others, but with, he thought, little effect.

Mr. Jones, in making a statement of what he had presented to the committee in Washington, said the chairman of that committee was unable to give a definition of what he understood by the term "compounded drugs." One of the most objectionable features of the bill was that manufacturers should be humiliated by being compelled to apply for licenses and put to needless annoyance and loss of time.

Mr. Jones presented the following premable and resolutions, which were adopted.

"WHEREAS, There is now under consideration by the Committee on Agriculture and Forestry, United States Senate, a bill entitled a bill 'for preventing adulteration and misbranding food and drugs, and the prevention of poisonous adulterations, and for other purposes;' and

"WHEREAS, The title is misleading, inasmuch as it does not, in any manner, regulate adulteration of food and drugs within the limit of the respective States and Territories, but aims to control the commerce in food and drugs between the several States and Territories of this Union, as the enacting clause clearly sets forth; and

"WHEREAS, The bill proposes to overturn business methods long established, and in all respects proper and mercantile; restrict and embarass trade between citizens of the different States and Territories; trample upon vested rights and impose regulations as burdensome, arbitrary, exceptional and indefensible, as they are needless, upon a class of American citizens engaged in a lawful and honorable calling, from which other citizens are exempt and to be exempted; and

"WHEREAS, The design of the bill is to place the manufacture and sale of all drugs, medicinal chemicals, pharmaceutical preparations and proprietary medicines, as far as practicable, under the arbitrary management of the Secretary of Agriculture, and to impose taxes, under the guise of licenses, so as to force us to assist in defraying the expenses of a department of the Government, with which we are in no way allied; and

"WHEREAS, The bill is unfriendly to us in conception—the agitation of the subject being largely due to the efforts on the part of certain parties interested in Farmers' Alliances to secure signatures to petitions printed and circulated so as to influence the Committee on Agriculture and exaggerate the extent of adulteration; and

"WHEREAS, The bill is tyrannical in its provisions, demanding that even manufacturers of articles prepared according to the United Stated Pharmacopœia, and other standard works on materia medica, shall apply to the Secretary of Agriculture for a license to transport their products out of their own States and Territories; insisting that all private formulas shall be submitted to the Secretary, and giving him authority to decide which may and may not be made, if intended to go throughout the United States; imposing not only fines, but imprisonment; conferring autocratic powers on one man to humiliate an honorable body of American citizens and to extort money from them; therefore, be it

"*Resolved*, That we are opposed to all needless interference with the commerce between the States and Territories.

"*Resolved*, That inasmuch as we are engaged in a business thoroughly legitimate and essential to the welfare of the people, we claim to have the same rights to-day that we have always had, and demand the same privileges that are accorded to other American manufacturers and dealers.

"*Resolved*, That we denounce this attempt to extort a tax, under the flimsy guise of a license, to help pay the expenses of the Agricultural Department: we deny that the exigencies of the case call for an arbitrary interference with our business; we condemn this attempt to put us under the control of an imperious chief of a division or Secretary of a department, with whom we have never had any connection whatever and never can have any analogical relation so long as agriculture and materia medica remain separate and distinct.

"*Resolved*, That we shall oppose such inconsiderate, unjust and partial legislation, believing that this is the proper and only course for us to pursue as free American citizens."

A motion by Mr. Kline that copies of the resolutions be sent to the various Drug Exchanges and Associations throughout the country, and to members of the Senate Committee on Agriculture and other members of the Senate and to Mr. Wedderburn, was also adopted.

MEETING OF THE NEW YORK TRADE.

Mr. John McKesson, Jr., called a meeting of the wholesale and manufacturing drug trade for Saturday afternoon at the Board of Trade rooms, to take similar action on the bill. The following gentlemen were present: Messrs. John McKesson, T. F. Main, M. N. Kline, F. G. Meyer, E. G. Wells, Albert Plaut, Frank Dodge, Henry Bowen, George Hillier, S. W. Fairchild, F. C. Geiger, Chas. L. Williston, F. N. Barrett, Mr. Rankin and Mr. O'Grady.

Mr. S. W. Fairchild, of Fairchild Bros. & Foster, was selected as chairman, and Mr. F. N. Barrett, editor of the *American Grocer*, as secretary.

Mr. Kline, of Philadelphia, was the first speaker, and during the course of his remarks he referred to the experiences of the committee at Washington and the action taken by the Philadelphia Drug Exchange, as stated in the first part of this article. He urged the trade to take prompt and decisive action in order to prevent the passage of the bill in its present objectionable form.

The preamble and resolutions adopted in Philadelphia were read, after which a motion was carried to heartily indorse the action taken by the Philadelphia Exchange. The chairman was also instructed to appoint a committee of five gentlemen to represent the wholesale drug trade of New York in opposing the passage of the arbitrary measure in question, and to act in connection with the Legislative Committee of the National Wholesale Druggists' Association and other committees that may be appointed by other trades, whose interests are affected by the proposed bill.

After remarks by Messrs. Plaut, Bowen, McKesson, Meyer and Geiger, which displayed an enthusiastic feeling in the matter, a vote of thanks was tendered to Mr. Kline for the interest manifested in the bill and for the trouble of coming from Philadelphia to explain its features to the trade. The meeting then adjourned.

A SUBSTITUTE BILL.

The following has been recommended as a substitute bill to prevent the adulteration of food, drink and drugs, when and so far as the same shall be transported outside the limits of the District, State, or Territory where the manufacturer, compounder, producer, dealer, or importer resides or transacts business into the District, or other State or Territory.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, as follows:

SECTION 1. No manufacturer, compounder, producer, dealer, or importer, shall knowingly transport or cause to be transported, or knowingly receive or cause to be received, from or into, the District, State, or Territory in which he resides or transacts business, into or from the District, or State or Territory, for the sale or barter, any article of food, drink, or drugs adulterated within the meaning of this act.

TERMS DEFINED.

SEC. 2. The term "food" shall include every article used for food by man, other than drugs.

The term "drink" shall include every liquid article drunk by man, except water or drugs.

The term "drug" shall include every medicine for internal or external use.

ADULTERATION DEFINED.

SEC. 3. That for the purposes of this act an article shall be deemed to be adulterated—

In the case of drugs:

First.—If when sold under or by a name recognized in the United States Pharmacopœia it differs, within the knowledge of the seller, from the standard of strength, quality, or purity according to the tests laid down therein.

Second.—If when sold under or by a name not recognized in the United States Pharmacopœia, but which is found in some other Pharmacopœia, or other standard work on Materia Medica, it differs, within the knowledge of the seller, materially from the standard of strength, quality, or purity according to the tests laid down in said work.

Third.—If its strength or purity, within the knowledge of the seller, fall below the professed standard under which it is sold; but an offense shall not be deemed to have been committed within this provision where the drug is a proprietary medicine, or the subject of a patent in force, and supplied in the state required by the specifications of the patent.

In the case of food or drink:—

First.—If any substance or substances has or have been knowingly mixed with it so as to reduce or lower or injuriously affect its quality or strength, so that such product, when offered for sale, shall be calculated and shall tend to deceive the purchaser.

Second.—If any inferior substance or substances has or have been knowingly substituted wholly or in part for the article, so that the product, when sold, shall be calculated and shall tend to deceive the purchaser.

Third.—If any valuable constituent of the article has been knowingly wholly or in part abstracted, so that the product when sold shall be calculated and shall tend to deceive the purchaser.

Fourth.—If it be an imitation of and knowingly sold under the specific name of another article.

Fifth.—If it be knowingly mixed, colored, powdered, or stained in a manner whereby damage is concealed, so that such product, when sold, shall be calculated to deceive the purchaser.

Sixth.—If it contain, within the knowledge of the seller, any added poisonous ingredient, or any ingredient which may render such article injurious to the health of the person consuming it.

Seventh.—If it consist, within the knowledge of the seller, of the whole or any part of a diseased, filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or of an animal that has died otherwise than by slaughter.

Provided, That an article of food, drink, or drug which does not contain within the knowledge of the seller any added poisonous or inert ingredient, shall not be deemed to be adulterated.—

First.—When any matter or ingredient has been added to the food or drug because the same is required for the production or preparation thereof as an article of commerce in a state fit for carriage or consumption, and not fraudulently to increase the bulk, weight, or measure of the food or drug or conceal the inferior quality thereof.

Second.—Where the food or drug is unavoidably mixed with some extraneous matter in the process of collection or preparation.

Third.—In the cases prescribed and exempted in by Section 3,436 of the Revised Statutes of the United States.

APPOINTMENTS AND DUTIES OF ANALYSTS.

SEC. 4. The Secretary of Agriculture shall liscense in the district, and in the different States and Territories, after a previous application, one or more persons in his discretion, possessing competent chemical, medical, and microscopical knowledge, skill, and practical experience to act as analysts of all articles of food, drink, or drug, when transported or received as aforesaid, for sale or barter, and may remove the same at his pleasure, and said analysts shall be compensated in fees paid by the buyer desiring to have the analyses as hereinafter specified.

SEC. 5. The public analyst shall report quarterly to the Secretary of Agriculture the names of the articles analyzed by him, and the sums of money he may have received in fees, and when a conviction has taken place under this act, and only then the result of such analyses.

SEC. 6. Any buyer of an article of food, drink, or drug transported for sale or barter into the District, State, or Territory where he resides or transacts business, from any manufacturer, compounder, producer, dealer, or importer, as aforesaid, shall be entitled on payment of a sum not exceeding ten dollars to any public analyst then licensed to act within the said District, State, or Territory, to have such article analyzed and to receive from him a certificate of the result of such analysis.

SEC. 7. When the buyer purchases any such article with the intention of having the same analyzed by the public analyst, he shall after the sale or barter is completed notify forthwith the seller or his agent of his intention, and shall offer to divide the article into three parts to be then and there separated, and each part to be marked and sealed up as its nature will permit, and shall, if required, deliver one part to the seller, and one part to the public analyst, and retain the third himself; and if seller do not accept his offer, he shall divide the article into two parts, and send one to the public analyst and retain one himself.

SEC. 8. When the analyst shall have given his certificate from which it may appear an offense against some of the provisions of this act has been committed, the person causing the analysis may proceed to recover the penalty imposed by this act for such offense. Every penalty imposed by this act shall be recovered before one of the United States District Judges, where the buyer resides or transacts business, or where the offense has been committed.

SEC. 9. At the trial the certificate of analysis shall be prima facie evidence of the facts therein contained, unless the defendant requires the analyst to be called as a witness, in which case the parts of the articles retained by the seller may be produced by the seller; and in all cases the defendant may call other analysts or witnesses in his defense, and the trial be conducted as in other cases.

SEC. 10. An appeal from the judgment of the District Judge shall lie within thirty days at the instance of the defendant to the United States Circuit Court.

SEC. 11. Any person violating any of the provisions of this act in regard to aduiteration, as aforesaid, shall be fined a sum not exceeding $50. But the amount of the fine may be reduced according to the judgment of the District Judge.

SEC. 12. All the costs of the suit, which shall include the fees of the public analyst in making the analysis, already paid by the buyer, shall be borne by the unsuccessful party.

SEC. 13. The penalty recovered under this act shall be paid, one-half to the clerk of the United States District Court where the suit is tried, and be by him paid into the treasury of the United States, and on -fourth to the person e using the conviction to be had.

SEC. 14. Nothing contained in this act shall affect the power of proceedings by indictment or take away any other remedy which exists or shall hereafter exist under the laws of the United States or of the State where the buyer resides, transacts business, or the offense may have been committed, or in any way interfere with contracts between individuals and remedies thereto belonging.

SEC. 15. Nothing in this act shall be considered as modifying or repealing the provisions of chapter 840 of the acts of the first session of the Forty-ninth Congress, entitled "An act defining butter and imposing a tax upon and regulating the manufacture and importation and exportation of oleomargarine," approved April 6th, 1886.

SEC 16. Any necessary expenses incurred in the execution of this act shall be borne by the United States Government.

Our London Letter.

[Special correspondence of the OIL, PAINT AND DRUG REPORTER.]

LONDON, May 7, 1890.

Nitrate of Soda.—The depression that continues in the nitrate market is not likely to be dissipated even by the publication of increased imports into Europe. In spite of this the sales for October delivery have been made during the last few days at $2 10. Ugly rumors are abroad concerning the indebtedness of the Primitiva Company of $300,000 to the Bank of Tarapaca and no official contradiction has been made. Urgent representations have been made to various English nitrate companies to combine so as to raise the price to $24 per cwt. Should this take place we

might see a return to last year's prices for shares when Primitivas stood at £38 per share whereas the present value is £12 and the Nitrate Railway had £10 shares standing at £30 which are at present selling at £17, although 25 per cent. dividend was last declared.

As to whether such a combination is probable it is difficult to state, but the recent expose by Consul General Walker, as published in the REPORTER, shows that both Chili and the U. S. A. are fully on their guard against such a contingency.

Opium.—The slight rise in "druggists" opium that has been taking place during the last month has been reduced in consequence of confirmed advices from Smyrna intimating that the long expected rain had come. Dealers here, however, have little confidence in second crops as their success depends upon the satisfactory state of the weather. Besides this there is no doubt that the stocks at Constantinople and Smyrna are much smaller than usual owing to the diminished crops both in Persia and Asia Minor. I recently had an opportunity of assaying a sample from several cases of best Talequale opium, imported from a well-known Smyrna house, which yielded 11·7 per cent. of morphine in the moist state and was charged $2 06 per pound f. o. b. Another, that was taken from a case received from Constantinople assayed 10·8 per cent. in the moist opium and was charged $2 6. These prices are, of course, subject to usual discount. The market prices in London at the last auction were:

Malatia opium	$3 07
Tokat	3 32
Yerli	3 03
Talequale	2 08@3 12

The cheapest quality of Talequale, usual run, containing about 9 per cent. morphine.

Cinchona Bark.—The sales last week were very heavy as much as 780,980 lbs. changing hands and less than one-sixth being withdrawn The chief buyers were the Mannheim and Amsterdam works and American, French, Italian and Brunswick factories. Slighly improved prices were realized which had not been anticipated. Ceylon "druggista" quills 10@14c per lb. These contained upwards of 7 per cent. of total alkaloid of which four-sevenths were quinine and cinchonidine. E. Indian 6@8c; 2@16c; Java 12@24c; W. African 10; S. American 13@14c. Consequently prices have remained generally steady but with a slight tendency to rise. n sulphate of quinine little has been doing, although I hear 30,000 ozs. were sold on the spot at 27c, whilst for June deliveries 28s has been obtained.

Shellac—The two last auctions of shellac have shown great improvement in prices, with a steady close. Nearly 2,000 cases have been offered, of which more than half were sold. The improvement is as much as 72c@$1 per cwt. and is attributed partly to the rise in price of silver. Fine pale orange realized 2@2½c; garnet A. C., 16@17c; orange T. N., 17@19c. fine button, 21@22c; orange G., 22@24c. Camphor; Makers of English refined have reduced their prices by 4c and lower prices are confidently expected. The variations at Mincing Lane on the 1st were as follows:

Lower.	Higher.
Camphor, (decidedly).	Bleaching powder, (slightly),
Musk, (slightly).	Cream of tartar,
Ipecacuanha.	Ginger, Jamaica and Cochin,
Soda compounds.	Mercury and mercurials,
Cascara.	Jalap, (slightly),
	Shellac,
	Spermaceti,
	Tamarinds.

Consolidation in the Glass Trade.

The Pennsylvania capitalists who have been making inquiries as to the consolidation of eight or ten glass factories to operate one gigantic concern to be built by them for the consolidated companies upon a surrender of their respective charters have discovered that there is nothing in their scheme. There are some factories willing to accept anything that is offered and there always will be. But there are many factories that will not accept any scheme or proposition, the prime object of which is to boom land in the vicinity, no matter what eventually comes of the works. The idea that a consolidation of the concerns means a great saving has long since been exploded. There is nothing in it. We happen to have figures for one ten-pot window glass furnace. The skilled labor at it for the ten months the furnace works in a year commands an average of $43.26 per week for each man. The weekly average of the secretary is $23.08, and that particular secretary receives more money than some of the others. But no matter about this particular instance. The salaries paid to the secretaries or to skilled or other workmen have nothing to do with the depressed condition of business at times or the demoralized condition at other times. Nor will a compact of this section or that section work out any good. The point is aptly put by the *Ohio Valley Manufacturer*: "If it cost $5 to produce an article and the card price is $5.50 a sale at $5.40 is not an actual loss, but it is the forfeiture of an opportunity of making ten cents, and the changing of a contingency into a certainty, that the selling price will in the near future, drop down to the cost. Cutting prices does not increase consumption." This is what robs the business of its main incentive and to have eight or ten factories of different sections hf the country consolidated would increase the ability if not the inclination to do this kind of robbing in order to do a big business for a few years, at the end of which time the management would change. The "successful" head of the concern would retire and the better business man who might retire would receive censure because he made no money. The bottom had been reached by his predecessor. So it is with individual concerns.—*Bellaire Independent.*

Our Census of Manufactures.

On the 2d day of June the work of collecting statistics of manufactures for the report of the Eleventh Census will be inaugurated throughout the entire country. The value of this report must depend wholly upon the accuracy and thoroughness with which manufacturers answer the questions propounded.

The personal interests of every manufacturer are involved in the character of the report on manufactures. It will be quoted for the next ten years as the official announcement of the exact industrial condition of the country, and will be the basis for any future legislation that may be enacted in regard to the wants of our people, whether engaged in agricultural or mechanical pursuits. Therefore it is of vital importance to each manufacturer that an accurate report shall be made.

The superintendent of census has taken every possible precaution in the preliminary work to make this census complete and satisfactory, and the earnest co-operation of those engaged in productive industry is all that is now necessary to secure valuable results.

Every manufacturer should bear in mind that his answers to the questions relating to his business are held strictly confidential, are not disclosed to any competitor or to other persons, and are not used by the government as predicate for the purposes of taxation or license, or in any way to adversely affect his individual business. This assurance is printed on each schedule over the signature of the superintendent of census.

The expert special agent in charge of this branch of census work, Mr. Frank R. Williams, has personally visited the principal manufacturing centers and consulted representative manufacturers, the publishers of trade journals and practical business men generally, for the purpose of ascertaining the proper scope of the inquiry for each branch of manufacture. The questions contained in the census schedules are those suggested by the manufacturers and other persons most interested in the progress of the country, and cover ground absolutely essential to the proper presentation of its industrial conditions and resources.

Chicago Paint, Oil and Varnish Club.

[Special correspondence OIL, PAINT AND DRUG REPORTER.]

CHICAGO, May 7, 1890.

The regular monthly meeting of the Chicago Paint, Oil and Varnish Club was held at the Palmer House in this city, on the evening of Thursday, May 15, 1890, the President, Geo. H. Vrooman, occupying the chair.

In response to the invitation extended by the Chicago club at the last meeting, the Detroit Association was represented by its President, Mr. S. E. Pittman, and by Messrs. Davis and Roberts.

The minutes of the previous meeting were read and approved.

The President referred to the invitation extended to the Detroit club to be present at this meeting, and on behalf of the local organization extended to the visitors a cordial welcome. He said that those who had been at Detroit in attendance upon the National Convention had had abundant opportunity to learn and test the hospitality of their brethren in that city. He introduced the President of the Detroit club, Mr. Pittman.

Mr. Pittman expressed his pleasure at being present. He thought as a guest he should be excused from speaking. Oratory was not his forte. On behalf of his own club he returned thanks for the invitation extended. He had found the entainment worthy of Chicago, and more than he could have reasonably expected. The Detroit club was small in numbers, but enthusiastic. Whether the latter circumstance was to be accounted for by the fact that they were new recruits he could not say, but he was positive as to the existence of the enthusiasm. Much of the success of his own organization was due to the secretary, who, he regretted, had been unable to be present to-night. His partner, however, was here, and he hoped that the Chicago Club would hear from him. He thought it strange that so many business men often looked upon their competitors in trade as excrescences. It was the happy mission of associations of the character of these paint clubs to correct this mistake and inaugurate a better feeling among the trade. In conclusion, he desired to congratulate Chicago on having secured the location of the World's Fair. Her success had not surprised him, and he expected to see her soon looking for "new worlds to conquer." He referred to a cartoon in a recent issue of *Judge*, in which a Westerner was portrayed as exhibiting considerable perturbation at receiving the gift of the Fair. He thought, however, that he could detect upon the face of the recipient a smile of secret satisfaction. He believed that the great West would show itself worthy of the confidence reposed in it by the nation. Once more he returned thanks, and expressed a hope that he would have yet other opportunities of enjoying a similar hospitality. In fact, he hoped that he and the other members of the Detroit club would be invited again.

The president said that he regarded the city of Detroit as second only to Chicago, and he was somewhat apprehensive that the former might yet obtain precedence. There was present a gentleman who had done much to make Detroit the city which it now is, and he took pleasure in introducing to the club Col. F. H. Rogers.

Col. Rogers was most happy to be present and begged to assure the members of the Chicago Club of the hearty good will of their brethren in Detroit. He had listened attentively to the reading of the minutes of the previous meeting, and had noticed the action taken by the Chicago club in reference to the resolution adopted by Detroit, relative to the exchange of old paints. He explained his connection with the resolution in question, and described the policy of his own firm regarding such exchanges. He hoped for the maintenance of the kindliest relations, not between Chicago and Detroit alone, but also among all the members of the trade. He believed that such clubs as these were productive of much good.

The president introduced Mr. Davis, of the Acme Company, Detroit, the president of the entertainment committee of the club of that city.

Mr. Davis thought the gentlemen who had already spoken had fully covered the ground. He appreciated the courtesy which had been extended, and hoped to see all the members of the Chicago club at Detroit.

Mestrs. Roberts and Palmer spoke in a similar strain, but begged to be excused from making any extended remarks.

In response to an invitation from the chair, Mr. Kotenberg made a characteristic speech. He regretted the action taken at the last meeting in reference to the circular issued by certain corroders of white lead, and said he should certainly have protested had he been present at the last meeting. He was glad to see visitors from Detroit and hoped that this would be but an entering wedge.

The chair introduced Mr. Prince of New York.

Mr. Prince expressed his pleasure at being present. He had made his first visit to Chicago many years ago, when he had felt no little curiosity as to what sort of a place it was. His only previous source of information had been the statements of travelling men from Chicago (cries "oh, oh"), which he had taken with some little allowance. He was gratified to see the growth and improvement of the city since the time of his first visit. He believed that the "World's Fair" was in safe hands. He was much impressed with the enthusiasm of the citizens upon the subject, and believed that such unanimity merited the success which it had achieved.

The proceedings up to this time had been interspersed by several songs by members of the club. Some chorus singing with orchestral accompaniment, had also been indulged in. The chair said that he was surprised to learn of the amount of latent talent existing in the club. He thought that it would be wise to utilize it in the future. At present, perhaps, it might be well to proceed with the general order of business. He called for the report of the special committee on linseed oil.

Mr. Andrews, as chairman, reported that the committee had called upon various members of the trade, as instructed. All who had been visited had favored the formulation of some plan for a sliding scale and of having rebates to large buyers provided unanimous consent could be had. He believed that the end sought might be attained, but thought that further time should be granted to the committee. On motion, the time of the committee was extended, and they were instructed to report at the next meeting of the club, to be held in September.

Under the call for miscellaneous business, the secretary reported that he had had an interview with Col. Sexton, the Chicago postmaster, in reference to grading sample cards of paints as second class matter. Col. Saxton said that he had no jurisdiction whatever in the premises, and had suggested that the club bring the matter to the attention of the Postmaster General at Washington.

The secretary read the following letters from Hon. J. L. Torrey, and President Richardson, addressed to President Vrooman:

EBBITT HOUSE,
WASHINGTON, D. C., May 6, 1890.

Mr. George H. Vrooman, President Paint, Oil and Varnish Association, Chicago, Ill.:

My Dear Sir—I beg to acknowledge the receipt of your telegram of to-day, reading as follows:

"Our Paint Club endorsed Torrey bill and wrote our Senators and Congressmen urging its passage. Can use my name as requested."

In behalf of the friends of the cause I beg to thank your club, through you, for its considerate endorsement of the measure, and to express the hope that we will be able to pass the bill and that it will prove advantageous to the commerce of the country.

I will recommend you for appointment by our Executive Committee as per your considerate permission, and am sure that you will be notified in the near future of its favorable action.

The probabilities are that the bill will not be considered until after the tariff discussion. Our only consolation is that the large amount of systematic work we are doing in its behalf is producing good results, and we are daily growing stronger.

With well wishes and kind regards, I am,

Very truly yours,

[Signed] JAY L. TORREY.

BOSTON, May 1, 1890.

G. H. Vrooman, President, Chicago, Ill.:

My Dear Sir—The National Paint, Oil and Varnish Association, at their last annual meeting, indorsed the Torrey bankruptcy bill. Many local organizations have also examined and indorsed this bill. The members, so far as I know, feel that the enactment of this bill will strengthen commercial credit, prevent many commercial wrongs that are now perpetrated, and provide for the discharge of honest insolvents.

There have been brought into existence large organizations made up of representatives from all parts of the country, for the purpose of promoting this agitation. The movement has been conducted with consummate skill and great energy, and there have been of course very large attendant expenses. I think that in view of the importance of our line of trade, we ought to make a liberal contribution toward the payment of these expenses. I understand that other trades are coming forward with subscriptions to the general funds.

Please find herewith enclosed a number of subscription blanks or guarantees. The terms are fully explained at the head of the blanks. Please circulate these blanks among your members and report the result to the undersigned, or Mr. Peter Nicholson, treasurer, St. Louis, Mo. It is important that this has your prompt consideration. Yours very truly,

[Signed] CHARLES RICHARDSON,
President.

The secretary reported that according to instructions, he had drawn up a paper condemning the exchange of paints and embodying a pledge to refrain from the practice, which he had presented to all the members of the trade in Chicago, with a view to obtaining their signatures. His success had not been as gratifying as he could have wished.

Mr. Coffin called for the reading of the paper and signatures with which request the secretary complied.

The president asked what action the club wished to take in the matter, and on motion of Mr. Rosenthal, the paper read was placed on file.

Mr. Senour moved that the secretary be instructed to send a copy of the proposed agreement to other points. He suggested, in particular, Pittsburg and Philadelphia.

Mr. Coffin was heartily in favor of the proposed agreement. His own firm had learned from experience that exchanging goods was unprofitable and annoying.

Mr. Senour's motion prevailed.

The Secretary announced that he had received a communication relative to the provisions of the McKinley bill concerning the duty on tin plate. Speaking for himself, he was of opinion that some action should be taken by the club as a unit.

Mr. Kotzenberg, in reply to the remarks of the secretary, announced himself as an uncompromising free trader. He was unalterably opposed to the imposition of any duty on tin plate which would enhance its cost. Mr. Senour thought that the provisions of the McKinley bill respecting tin plate would necessarily affect the whole trade.

Mr. Andrews thought that the club might do well to take some action looking toward the prevention of any advance in the price of tin.

The president said that the discussion of religious and political subjects was forbidden by the by-laws. He hoped that the introduction of a matter relating to the tariff would not precipitate a discussion. At the same time, he was of opinion that it might be well to adopt some resolution in reference to the duty on tin.

Mr. Senour called for the reading of an article from the Boston *Post*, containing communication addressed to President Richardson.

The secretary read the article at Mr. Senour's request.

Mr. Andrews moved that the secretary be instructed to prepare a communication embodying the sentiment of the club, to which he should obtain signatures.

Mr. Coffin seconded the motion.

The president of the Detroit club spoke upon the question, taking strong grounds in favor of protection.

Mr. Kotzenberg briefly replied, reiterating his former statement.

The motion prevailed.

Mr. Senour did not consider this a question of free trade and protection. He thought that this particular item should stand or fall upon the merits of the provision alone. He was inclined to think that the tin men would suffer the loss of only a few thousand dollars, which was utterly insignificant as compared with that inflicted upon the rest of the country.

The president announced that an application for membership in the club had been received from a firm in Milwaukee, which had been favorably acted upon by the Executive Committee.

Mr. Andrews suggested that missionary work might be done, not only in Milwaukee but also at other points adjacent to Chicago.

Mr. Cox, in behalf of the committee, said that this was but a beginning, and that they hoped before long to receive similar applications, not only from Milwaukee but also from Peoria and other points.

Mr. Petitt moved that a committee be ap

pointed by the chair to nominate officers for the coming year.

The motion having been carried, the chair said that he would announce the committee later, and called upon Mr. House, of Cleveland, who was present, to address the club.

Mr. House said that he had little to say, but was of opinion that something should be done in the direction of lowering the duty on linseed oil.

The president announced as the committee on nominations, Messrs. Petitt, Hall and Hayes.

There being no further business before the meeting the club then adjourned.

CALUMET.

The Western Glass Trade.

[Special correspondence of the OIL, PAINT AND DRUG REPORTER.]

PITTSBURG, May 17, 1890.

Since my last there have been some interesting developments in the window glass trade, and the intimation I gave regarding the exceedingly amicable relations of the manufacturers and jobbers has been verified. This understanding between them concerning their attitude towards the trade in general was indeed necessary as the jobbers were in many instances cutting under the manufacturers' prices, and had this continued much longer the result would no doubt have been serious. By closing part of the factories on June 1st and the remainder on the 14th, as mentioned in my letter last week, the market will be put in a more healthy condition, for the present as well as the future. In order to keep prices on a more solid basis and allow a reasonably fair proportion of the production to be kept in hand, it was necessary that the two branches of trade should come to an understanding. With this object in view the jobbers called a meeting last Tuesday and extended an invitation to a committee of the manufacturers to be present. The manufacturers' committee was composed of Mr. James Chambers (chairman), and Messrs. Loeffler, Hart, Hall, Frazee, and Catlin. The conference lasted for two days, during which the jobbers permitted the committee from the manufacturers to participate fully in the proceedings and discuss their plan of action. The committee learned that the jobbers, generally speaking, had a larger stock on hand than is usually the case at this time of the year. The jobbers resolved to maintain the manufacturers prices, provided the manufacturers would follow out their resolution concerning the closing of the factories. The jobbers further agreed to cooperate with the manufacturers on the question of prices as well as in all other matters relating to the trade in which such cooperation would be necessary. They organized an Executive Council, composed of Messrs. George Kimball, Chicago, D. Stewart, Indianapolis; Adolph Drey, St. Louis; William Glenny, Cincinnati; and William Reid, Detroit, and it was unanimously resolved to form a permanent organization to be known as the Western Window Glass Association. The meeting was certainly an agreeable one for both the manufacturers and the jobbers. The discussions passed off smoothly, and after two days of hard work the conference closed with a banquet, tendered to the jobbers by the manufacturers' committee, which was much enjoyed by all.

Trade is in pretty fair condition at present. All the manufacturers are running full in order to produce as much as possible before the shut down.

A. P. RUTHERFORD.

The Petroleum Trade of Bristol.

The Bristol Chamber of Commerce has caused a special report of the petroleum, oil and tallow trades of the city to be prepared. The report is as follows: During the past year the petroleum trade, as was anticipated, has undergone a vast change, owing to the keenness of Russian competition, and to the fact of the old barrel system having been to a great extent superseded by the tank system. In order to meet the exigencies of this new mode of transport, considerable enterprise has been displayed at the various ports in the country, and in this connection it may fairly be said Bristol has more than held her own. Two companies have been formed for the purpose of erecting tanks at the mouth of the river to receive the oil direct from the tank vessels, which by these means can be discharged in a day or two, instead of from eight to ten days, as formerly. The West of England and South Wales Petroleum Association have already erected two tanks, each capable of containing about 2,500 tons of oil, which are to be used for Russian oil only, and two more—somewhat smaller—are in course of construction for the same purpose. At present only one tank has been used, as only one cargo—about 2,000 tons—has been discharged, but the second will be ready for the next cargo, which is expected to arrive shortly. From these circumstances it will readily be seen that local merchants are determined that the port of Bristol shall lose none of its importance in the trade. The Anglo-American Oil Company, Limited, have also arranged to build four tanks of about the same capacity as the others, and these are expected to be completed in about six months. The following statistics may be of interest as showing the number of barrels of American petroleum imported into Bristol since 1874:

Year.	Bbls.
1874	37,175
1875	36,460
1876	47,093
1877	65,584
1878	54,267
1879	93,485
1880	90,622
1881	104,809
1882	87,423
1883	79,813
1884	90,776
1885	114,747
1886	94,078
1887	118,627
1888	149,320
1889	193,233

The imports of Russian petroleum are as follows:

Year.	Bbls.
1885	10,347
1886	13,759
1887	5,188
1888	7,000
1889	37,929

The average London monthly prices of refined oil during 1888 and 1889 were as follows:

	American.		Russian.	
	1888.	1889.	1888.	1889.
	d.	d.	d.	d.
January	7 1-16	6¾	7	5 13-16
February	6¾	6 5-16	6¾	5¾
March	6⅝	5¾	6¼	5¼
April	6¼	5⅛	5¾	5 1-16
May	5⅛	5⅛	5¼	5⅛
June	5⅝	5⅝	5⅛	5¼
July	6	6	5⅝	5 9-16
August	7¼	6	6⅛	5¼
September	7⅛	5 13-16	6¾	5⅝
October	6¾	5⅝	6½	5 5-16
November	6½	5 11-16	6 7-16	5¼
December	6¾	6 3-16	6¼	5¾

The Petroleum Trade of Batoum.

British Consul Peacock, of Batoum, has prepared a report on the trade of that port for the year 1889, wherein he states that the volume of trade and the amount of shipping there during the past year have again increased, and that, as in the preceding few years, almost exclusively owing to the development of the Baku petroleum industry, the scope and the very character of the commercial and industrial activity of Batoum being still dependent on and determined by the all-engrossing petroleum trade. Any branches of business, especially those relating to imports, not connected with that trade occupy, indeed, so subordinate a rank in the local market, that the contingent expansion or contraction of the same may be said to be of no practical consequence to the vested interests of this shipping place. On the other hand, the import of such foreign goods as are absolutely required for the petroleum trade as, for instance, tin plates, caustic soda, etc., has become a business of considerable importance. If it were not for the demand for such articles there would be scarcely any inward cargoes for ships arriving there to load petroleum.

Although the aggregate quantity and value of the trade considerably surpass those of any of the preceding years, and show an increase of 26 per cent. in quantity, and of 37 per cent. in value as compared with those of the year 1888, the business, so far as profitableness goes, was upon the whole, less satisfactory. Taking into account the considerable investments in new storage tanks, pipe lines, railway tank cars, and the enormous inflow of foreign money, owing to the increased export trade, it is evident that the country at large must have materially gained during the last year. Such firms also as are trading in petroleum, and who, at the same time, are owners of productive petroleum wells, must doubtless have found the year an exceptionally profitable one, because of the great rise in the price for crude oil. But the commercial community as a body, it is the general complaint, have not been able to realize profits in any way proportional to the expansion of business, or even partly justifying the sanguine expectations entertained at the opening of the year. To corroborate this statement it may not be irrelevant to record the fact that during the last year one of the first established and best organized firms at Batoum found it expedient and profitable to liquidate; others have formed a syndicate so as to be able to withstand the pressure of competition, and not a few are simply continuing business in hope of a better future. The ever-growing competition was doubtless one of the principal causes that brought down the rate of profits.

In consequence of the increased demand for petroleum products required for home consumption, the price of crude oil rose from about 2s. 6d. to above 7s. per ton, which in its turn caused also a rise in the price for kerosene required for shipments to foreign countries, the Baku producers and refiners gaining thereby, but most of the Batoum firms supplying the markets of Europe and Asia with petroleum were thus incurring heavy losses. The quantity of the staple article, petroleum, exported alone amounted to 649,085 tons of the value of £3,023,300, showing, as compared with the quantity and value of the same article exported in 1888, an increase respectively of 44 per cent. and 75 per cent. The value increased at a much higher rate than the quantity on account of greatly enhanced prices for that article. On the average the price for kerosene in bulk, free on board, was about £3 5s. per ton, and about 4s. per case, that is about 20 per cent. more than in 1888. The different petroleum products have been shipped as follows:

	Tons.
Crude oil and astatki	7,830 in barrels.
	6,500 in bulk.
Lubricating oil	25,680 in barrels.
	9,330 in bulk.
Distillate	1,000 in barrels.
	76,500 in bulk.
Kerosene	2,500 in barrels.
	258,400 in cases.
	236,800 in bulk.

It thus appears that 329,130 tons have been shipped in bulk, and 295,400 in barrels and cases. As to the manner in which the remaining 24,495 tons of petroleum products had been shipped exact information was not procurable. Petroleum being now largely shipped in bulk, the demand for tin plates is not likely to increase in proportion to the increase of the petroleum exports. As to the important trade of carrying petroleum in bulk, we may mention that the number of tank boats engaged in that trade at this port in 1889 were 28, of which 22 were under the British flag, 3 under German, 2 under Russian, and 1 under Belgian. In the year 1887 the number of tank boats trading here was 9; in 1888, 22; and in 1889, as stated above, 28. The quantity of cargoes carried in bulk from this port in 1888 was about 230,000 tons, and in 1889 about 329,000 tons. The system of shipping in bulk, which for some time was almost exclusively confined to the port of Batoum, and the great economy of which has been referred to in previous reports, having been adopted now also in the United States, where, it is said, about thirty tank boats are actually engaged in the trade, it is evident that the chances of the Caucasian petroleum trade in competing with that of America must materially diminish.

As to private undertakings in the interior that materially added to the trade at this port, the first place unquestionably belongs to the pipe line of Messrs. Nobel Brothers. It is laid over the Suram mountain range, from Mikhaelovo to Kvirilla. Its length is forty miles, and diameter four inches; the quantity of kerosene that may be daily conveyed through it amounting to 700 tons. The great advantage of that pipe line, it need scarcely be mentioned, is its greatly facilitating the conveying of the kerosene over the most difficult section of the line from Baku to Batoum.

With reference to the still open question regarding the alleged threatening exhaustion of the Baku petroleum wells, this has been warmly commented upon during the last year. To say nothing of the Baku well owners and refiners, to traders in general largely engaged in the petroleum trade, and particularly so to those of this port, with its many factories, pipe lines, and 85 iron reservoirs of a tankage capacity of 138,000 tons, representing an enormous amount of capital, the exhaustion of the Baku wells would be an irreparable calamity. However, so far as the yearly quantities of crude oil yielded during the last decade may serve as a criterion, the Baku petroleum fields can certainly not be said to show signs of exhaustion. What is presumably meant by people asserting the contrary is that, upon the whole, within the comparatively limited area of the territory thoroughly explored and actually yielding oil, in order to reach the oil-bearing strata wells nowadays have to be sunk to a considerably greater depth than in former years. This is a fact that none of the local well-owners deny. The question of exhaustion might thus be resolved on technical and commercial grounds respectively into the question of increased difficulties encountered in boring operations, and that of the profitableness or unprofitableness of carrying on such operations. The technical difficulties at present, at least, are evidently not insurmountable, and, as to the commercial side of the matter, it must be admitted that the production of crude oil, owing to the rise in the price of that article, proved a more lucrative business in 1889 than in the preceding years. Occasional deficiencies of supplies at this port, or the rise of price for petroleum products cannot be properly accounted for by signs of exhaustion of the petroleum wells, but may be more correctly ascribed to the greater demand for these products. The following figures will show that the production of crude oil in 1889 has enormously increased, and that the rate of increase of the shipments of the products in question has been still greater.

The total quantity of crude oil produced in 1888 was 2,580,000 tons; and in 1889 it was 3,306,000 tons. The quantities of shipments of the different petroleum products from Baku to Russia, Transcaspia and Persia by the Caspian, and from Batoum to foreign countries by the Black sea, etc., in tons are:

From—	1888.	1889.
Baku	1,291,632	1,764,085
Batoum	450,326	649,085
Total	1,741,958	2,413,170

The above figures show an increase in favor of the year 1889, in the production of crude oil of above 28 per cent., and in the total shipments of above 37 per cent. For the present, therefore, there is practically no ground for alarm on account of the alleged signs of exhaustion; and it should be borne in mind that if, in the future, the limited territory of the Apsheron, where borings are actually being carried on, were after all to prove insufficiently productive or exhausted, there are other petroleum fields along the Caspian at Khidirzindi, Aliata, and also in the vicinity of Shemakha, etc., as yet not explored, because there has been no real necessity for doing so, but which are sure to attract capitalists as soon as the necessity will present itself and it will be found expedient and reasonable to abandon the old places and turn to new ones. The crisis is not likely to come soon. Even at the present time, besides the many still productive pumping wells near Baku, there are three fountains at the old place spouting with unabated force, and yielding daily above 5,000 tons.

The Petroleum Trade of the West of England and South Wales.

With the near completion of the extensive premises belonging to the Bristol and West of England and Wales Petroleum Storage Association, about six miles from Bristol, much interest is being felt in the enterprise in the immediate locality. Though some matters of detail remain to be accomplished before the undertaking is finished, the works have progressed sufficiently for trade to be carried on. Until the last few years the land at the mouth of the Avon presented few signs of any commercial operations, but now Bristol merchants as well as some firms from a distance are beginning to discover that, with the admirable geographical position for a Transatlantic trade, and the proximity of Avonmouth Dock, the place is well fitted or certain kinds of business being carried on. The petroleum Association have acquired between three and four acres of land near the dock, and preparations have been made for doing trade upon a large scale. Offices and a caretaker's house have been substantially erected, and near this block of buildings are situated the barrel-repairing and painting rooms. Here the barrels are cleaned, glued, repainted, and set into the filling-houses adjoining, on inclined runs. For the operation of cleansing, some twenty-four pipes, each about a foot high, runs out of the ground at equal distances apart in a shed; the burg of a barrel is placed over one of these pipes and steam forced in, which cleanses it of glue and other matter. The barrels are dried with hot air, forced into them through the same pipes, and are then sent on, by another run, into the cleansing-house, where glue is forced into each by a special machine, the proper quantity of glue sent into the barrels being regulated by a cylinder. They are then drained (any superfluous glue going into a drain to be re-used in the machine), and are afterwards sent on to the second floor by means of an elevator, where they are quickly painted by skilful hands, who in the briefest possible time complete the painting operation. When dry, the barrels are sent along the inclined plane already mentioned to the filling-house. Here are two large cisterns with taps on each side, twenty-eight taps in all being in present use. The oil is conveyed from storage-tanks outside to this room by means of a small pipe which runs along a larger pipe used for conveying the petroleum from the ship to the storage tanks. In the filling-room an ingenious contrivance is being used at the taps, and this, by means of a float which loosens a small hammer, stops the flow as soon as a barrel is filled. This American patent is a great improvement in the saving of labor and preventing the waste of oil in the old mode of filling by means of ordinary taps. Between 600 and 700 barrels can be filled with oil in the course of a day. When the barrels are filled, they are to be wheeled out, if to be sent by boat, on a jetty which has been erected for the use of the association. The jetty being scarcely large enough for loading more than one barge at a time, is about to be enlarged to double its present length, which will make it 160 ft. long. The loading appliances on the jetty, though at present of a primitive nature, will be improved and three "derricks" placed on the pier with steam lowering gear. The most notable features in the association's premises are four large petroleum tanks, two of which hold 2,200 tuns and the remaining two 1,000 tuns each. These huge cisterns are in complete order, and have been found to answer their purposes admirably. They are erected on foundations of concrete and board, which extend to a depth of three feet below the surface. The petroleum is brought in tank vessels to Avonmouth Dock, where it is conveyed by means of pumps and six-inch hydraulic pipes along the side of the river to the tanks. The association has a preferential berth at one corner of the dock, and the pipes run for a considerable distance to the tanks. At the side of each of the cisterns is a fixed ladder, and a corresponding ladder runs down inside, which, by the aid of manholes at the top, gives the officials a chance of personal examination if the gauges on the outside are found to be working badly. The foregoing details will show that the works are extensive, and that everything has been done to reduce actual manual labor to a minimum. The space not in use for sheds and offices will be used for the storage of barrels, of which there are about 20,000 on the association's premises at present. There is considerable ingenuity

shown in the repairing department, and in supplying hot air for drying the barrels by a novel principle, as there are only two places in the country at which it is adopted. The different appliances further possessed by the association are so complete that the oil is not touched by hand, and the barrels are scarcely touched, so that danger and labor are minimised. Soon the adjoining land obtained by the Anglo American Oil Company, (limited) will present a busy appearance. At present preliminary operations are going forward, with a view to obtaining a good foundation, and piles are being driven. Further, a bank has to be raised, as in the case of the Bristol and West of England and South Wales Association for the purpose of preventing the high tides flooding the spot. When the land has been prepared, the Anglo-American Company will have storage tanks erected, and probably a busy depot formed.—*Oil Trade Review.*

On the Measurement of Durability of Lubricants*

BY J. E. DENTON.

Practical differences of durability of lubricants depend not on any differences of inherent ability to resist being "worn out" by rubbing, but upon the rate at which they flow through and away from the bearing surfaces. The conditions which control this flow are so delicate in their influence that all attempts thus far made to measure durability of lubricants may be said to have failed to make distinctions of lubricating value having any practical significance. To illustrate: Let a standard half-inch plug-gauge and its ring be thoroughly cleansed of all oily matter by soaking in ether. If the two pieces are fitted within the limit of standard accuracy there will be, say, about one thirty-thousandth of an inch greater diameter to the ring than to the plug. The two pieces will go together with great difficulty after cleansing with ether—in general a mallet will need to be used to force the plug into the ring. But if the pieces be smeared with lard or sperm oil, or any good oil of equal fluidity, the plug may be pushed within the ring by a slight effort of the hand, and may be moved back and forth at the rate of about twenty times per minute with the utmost effort of the wrist. If the reciprocating motion is stopped for five seconds, the plug will stick, and must be driven out of the ring with a mallet. The phenomena to be here noticed are, first, that the oil allows itself to be swept into the crack between the ring and the plug by the reciprocating motion of the latter, thereby acting like a wedge to slightly expand the ring; and, second, that as soon as the motion of the plug ceases, the oil between the ring and the plug is squeezed out by the elastic recovery of the ring. The orifice through which the oil flows from underneath the ring is a circular annulus one sixty-thousandth of an inch wide, and yet the flow is a perfectly definite one, inasmuch as the phenomena described repeat themselves with fair regularity.

Let both pieces be again cleansed in ether and the experiment repeated, using as the lubricant an oil so thick as to scarcely flow out of any vessel at ordinary temperature. Such an oil is found in the petroleum products prepared for steam cylinder lubrication. It will be found that the plug will enter the ring with the same readiness as when lard was the lubricant, but the force of the wrist will not be able to reciprocate the plug more than about one-third as fast, owing to the greater viscosity of the heavy oil. If the reciprocating movement of the plug is stopped, a period of at least fifteen seconds is necessary to cause the plug to stick, so that the hand cannot readily re-start it. The explanation of this difference of action of the two lubricants is simply that more time is required for the heavy oil to escape underneath the ring and allow metallic contact between the latter and the plug to be partially resumed, and that the thicker oil requires more force to overcome the friction among its own particles. The difference is proportional to the difference of viscosity as determined by the time required for each to flow through any orifice, and to their co-efficient of friction as determined by any form of oil-testing apparatus capable of measuring friction with a superabundance of oil fed to the rubbing surfaces. The sticking of the plug, when it is allowed to rest, has also its parallel in the excessive friction offered by a journal to starting compared to its friction when in uniform motion, the oil squeezing out from between a journal and its brass when the former comes to rest in the same manner that it flows from underneath the ring-gauge. It is evident, however, that if these definite differences of flow of a lubricant from between two surfaces exist for such minute thicknesses of film as occur with the plug and the ring, and for such slow motion as the hand produces, in studying the action of lubricants in practice, we must adjust our observations and scale of measurement to the consideration of the most delicate and subtle forces or influences to which the lubricant can possibly be subjected in its use in practical service.

From this standpoint let us consider the results of sme attempts to measure the durability of oil in the laboratory. The experiences given are those of the writer, and they are s t forth in detail to an extent designed to contribute in what, it is hoped, will be a useful way to the inquiries and beliefs which are current regarding possibilities in the way of practical distinctions of lubricating value by such forms of testing machines as have thus far been used in testing laboratories. The primary idea of determining durability is naturally, to supply a measured quantity of lubricant to certain rubbing surfaces and determine how great an amount of rubbing the lubricant will withstand before its power of maintaining the friction, at some agreed upon minimum, is exhausted. As a means of measuring the friction between two rubbing surfaces there is no device superior to what is known as the Thurston form of oil-tester, which consists in forcing a pair of brasses against a journal in opposite directions by a spring, the latter being lodged in a pendulum free to swing about the journal under the influence of the friction produced between the brasses and the latter, the amount of the friction being measured by the inclination to the vertical of a line joining the center of the journal and the center of gravity of the pendulum. Suppose one of these oil testing machines to have a journal about 1½ inches square; then an amount of oil forming a single drop let fall from the sharp point of a steel rod, 1-16 of an inch in diameter, suffices to cover the rubbing surfaces, so that with the latter in the best possible condition a very low coefficient of friction can be obtained at a rubbing speed of about 200 feet per minute and a pressure of 75 lbs. per square inch of the journal; and at the same time there will be no surplus oil—that is, all of the oil will be practically subjected to rubbing action. If, under these circumstances, we run the journal continuously until the friction, after remaining practically constant for considerable time—half an hour at least—gradually begins to increase and finally becomes double the original amount, it might easily be supposed that the number of revolutions to accomplish this would measure the durability of the lubricant used as compared to another tested in the same manner. This was, at one time, so far the belief of the writer that the relative value of oils was sought by such a test, but with the following result: The amount of oil applied to the journal was accurately gauged at 8 milligrams. The journal and brasses—the former of tool steel, hardened, and the latter of composition—were reduced to such a condition that at a given temperature a certain standard lard oil always produced a certain amount of friction, and a trial of this standard lard always preceded the trial of any other oils whose durability was to be determined relatively to the lard.* If the friction with the standard lard was too great, the cause of it was always found ascribable to incipient roughening of the surfaces, and the latter were nursed by rubbing with an oil-stone under a magnifying glass and by continued running with an unlimited amount of lubricant, until the standard condition was regained. When the oil was fresh upon the bearing surfaces it was translucent in appearance and slippery to the touch. After about 10,000 revolutions the friction might have increased to double the minimum amount, as described above, but the appearance of the oil would show no signs of deterioration, and it was found that the cause of the extra friction was the uneven distribution of the oil over the rubbing surfaces There being no continuous supply, the oil distributed itself more or less evenly simply by chance, and a small filament or part of the rubbing surfaces could be seen to be devoid of oil. Accordingly the oil was redistributed with the pointed end of a match and the pressure reapplied, with the result that the friction at once resumed the minimum value, showing that the oil was in no sense worn out. The machine would therefore be run on until the friction again doubled itself, when another examinttion might still show the cause to be irregular distribution. This was again remedied and the machine continued in operation under the same program, until finally, after several redistributions of the oil, the latter has lost its translucent appearance and oily nature, having become a dark-colored paste.

The friction would then refuse to decrease by redistribution. The total number of revs olutions might be 12,000 to accomplish thi result with lard oil on a given date, and the same number of revolutions might be nearly obtained on a second trial. In fact, so far did duplicate trials of the same oil apparently give the same revolutions within a small per cent., that, as stated above, the relative durability was thought to have been determined by this method with reference to the lard oil. But, upon a more extensive trial of the lard, 30,000 revolutions were required to reduce it to the gummy state, and again, 60,000 revolutions, and upon one occasion 400,000 revolutions, and in between these figures would occur records of 10,000, 7,000 and as low as 5,000 turns of the machine, which, with no variation of pressure, temperature, speed, atmosphere, amount of oil or quality of the latter, were the apparent measure of the durability of this standard oil, as measured on this basis. Evidently some cause was at work which rendered the method valueless. Such cause was discovered and communicated to the writer by Dr. Charles B. Dudley of Altoona, who had carried out similar investigations. Upon analyzing the black paste to which the lubricant reduced itself, Dr. Dudley found that it was composed mainly of the material of the bearings themselves, showing thereby that the limit to the friction-producing qualities of a lubricant tested in this manner was the rate at which it adulterated itself with the metal worn off the bearings, notwithstanding that the amount of the latter was so infinitesimal that years of operation of the machine would not detect the wear by any finite measurement of the dimensions of the bearings. The rate of this metallic wear being infinitely variable, it is evident that the durability of oil cannot be measured by restricting our measurement to the behavior of a fixed quantity whose amount shall be so small as to allow of no surplus oil about the bearings, or, in other words, maintain all of the oil under rubbing action at once. The failure of the method is a tributable also to the fact that so little oil was employed compared to the amount of rubbing surface, that the latter could not remain uniformly covered. It is natural, therefore, to inquire whether the method would not be more successful if a greater amount of oil could be used permitting a slight surplus, but applied upon some plan which would enable the surplus to be employed to secure regularity in the distribution of the oil over the rubbing surfaces. Such a plan has been tried by the writer on a larger size of Thurston testing machine having a journal about four inches diameter and seven inches long, with brasses of the same proportions as used in railroad car service, except that the arc of contact was reduced, so that the total bearing area of two brasses was about seventeen square inches. The journal was of wrought-iron reduced to such a condition that, with standard lard oil under 350 pounds per square inch pressure, and about 250 revolutions per minute, a coefficient of friction of four-tenths of one per cent. could be maintained. Oil was fed to the journal through two oil cups fastened into holes in the upper brass. After cleaning the bearing surfaces, 10 minims of oil were smeared upon them, and the pendulum hung in place. Twenty-five minims of oil were then evenly distributed between the two oil cups, while about 100 lbs. pressure was upon the bearings and the machine in motion. The pressure was then gradually increased to 350 lbs., and the machine run until the minimum friction doubled itself. Before relating the results we will consider the difference in the amount of oil applied compared to that used in the eight-milligram test, with the journal about one and one-half inches diameter. For the latter conditions each 10,000 revolutions cause a number of square inches of surface to be rubbed over, which correspond to the use of one milligram of oil for each 7,000 square inches. In the case of the larger journal 35 minims of oil correspond to the use of one milligram to each 2,000 square inches of surface rubbed over, if the 35 minims should permit 10,000 revolutions before the friction was doubled. Consequently, a considerable surplus of oil would be present in the case of the large journal, provided it could be prevented from wasting. To prevent such waste was, however, a matter of some study.

The 25 minims placed in the oil cups filled the lower portions of the latter for a depth of about one inch, and flowed out very gradually, but still with sufficient abundance to cause large drops of oil to roll off the rising side of the journal as they approached the edge of the upper brass. Oil adhering to this edge of the brass was carried by capillary action, and the slight irritation of the upper brass in its framework, up the vertical sides of the latter, and gradually the entire interior of the framework enclosing the brasses was covered with the surplus oil. To overcome this irregularity the upper brass was cut, so that oil which was carried upward by the journal to the edge of the brass could not climb along the bevel surface, but dropped off the upper brass to the lower brass. A flexible metal guide was fastened to the lower brass so that the oil thus dropping from the upper brass was prevented from striking the sides of the framework, but was instead caused to fall against the journal and be repeatedly drawn upward, thus assisting to maintain in a uniform condition the film of oil on the journal. The brasses were one inch shorter than the journal, so that a liberal amount of lateral motion* could be given to the pendulum. The edges of the brasses were chamfered, so that the result of the lateral movement was to accumulate a band of oil around each end of the journal, distant from the latter equal to the radius of the fillet. This band of oil absorbed a considerable proportion of the total 35 minims during the early stages of a test, but did not seem to consume oil or withdraw it from action between the surface after such time. To all appearances the journal was in a uniform condition of lubrication, the friction remaining perfectly constant for several hours, and the temperature remaining, with all oils of about the fluidity of lard, within 5° of 130° Fahrenheit. Yet, in spite of every precaution, successive records of lard oil were as follows:

	revs.
July 9	82,000
10	67,800
13	53,000
15	29,000

and of a pure mineral oil of about the same fluidity as lard:

	revs.
July 10	36,000
Second test	33,000
Third test	27,000

The last three results were well calculated to lure an experimenter into the belief that the method gave duplicate results, but on continuing the test of the same oil on July 15, the record of one test was 10,600 revolutions, and of a second test 64,000 revolutions, with the friction and temperature and speed as identical as it is possible to have them. It was evident, therefore, that irregularity of conditions existed, of a nature beyond the reach of any available means of control, and, so far as is known to the writer, there is no method of employing so little oil on a journal as to prevent its escape from the latter and determining anything representative of the quality of durability. The clever device adopted in the Pennsylvania laboratory, at Altoona, of saturating a strip of felt laid in a cavity in the lower brass with the oil to be tested, is another method of making a fixed quantity of oil be wholly devoted to the lubrication of the bearing surfaces, the slight tendency of the oil to escape being checked by sucking up the waste oil with a pipette, and continuously restoring it to the journal. No attempt is made, however, to determine any quality of the lubricants tested other than their coefficient of friction. The rates at which oils are supplied to practical bearings are, however, greatly in excess of the amount applied in the above tests. Taking the average revolutions which caused the friction to double at 30, 00, the 35 minims supply to a journal four inches diameter and six inches long amounts to one seven-hundredth of a milligram per square inch of surface rubbed over.

A very economical case of practical oil consumption is when a locomotive main crank pin consumes about six cubic inches of oil in a thousand miles of service. This is equivalent to a consumption of one milligram to seventy square inches of surface rubbed over, or ten times as great an amount as that used on the testing machine. If, therefore, the latter amount provided a surplus requiring special provision to prevent escape of oil from the bearings, what must become of the surplus present on the locomotive crank pin and other bearings using oil with the same economy, of which there are numerous examples in every class of machinery? Undoubtedly it must continuously escape from the journal. The thirty-five minims of oil used in the test described, was so little contaminated by the absorption of metallic wear under 30,000 revolutions that the fluidity was not greatly reduced. Consequently, with ten times as great an amount of oil to absorb the metallic particles, the oil leaving the locomotive crank pin is but little changed in fluidity, and flows from between the surfaces with practically the same freedom as when in a fresh condition. It follows, therefore, that the economy of one oil over another, so far as the quantity used is concerned—that is, so far as durability is concerned—is simply proportional to the rate at which it can insinuate itself into and flow out of minute orifices or cracks. Oils will differ in their ability to do this, first, in proportion to their viscosity, and, second, in proportion to the capillary properties which they may possess by virture of the particular ingredients used in their composition. Where the thickness of film between rubbing surfaces must be so great that large amounts of

*A paper presented at the Cincinnati meeting of Mechanical Engineers.

*A question often asked is whether measurements on an oil testing machine can be made to duplicate themselves. In the matter of friction an entirely satisfactory duplication of action is always possible. For example the following is a series of fifteen consecutive tests of different oils, and between each pair of tests the journal of the oil tester was tried with the standard oil, and gave results as follows:

No. of Trials.		Temperature of Bearings.	Friction of Standard Oil. Total pressure on journal, 300 lbs.
1st trial,	Dec. 15th	95°	19 lbs.
2d	18th	93°	17
3d	20th	110°	19
1st	15th / Oil A	95°	19
2d	27th " B.	95°	19
1st	16 h " C.	95°	19
2d	22d " D.	95°	19
1st	15th " D.	95°	19
2d	18th " E.	110°	17
1st	18th " E.	110°	18
2d	22d " F.	110°	17
1st	18th " F.	110°	17
2d	18th " G.	110°	17
1st	28th " G.	110°	17
2d			

*Whenever this lateral motion was stopped, the friction rapidly increased.

oil pass through bearings in a given time, and the surroundings are such as to permit oil to be fed at high temperatures or applied by a method not requiring a perfect fluidity, it is probable that the least amount of oil will be used when the viscosity is as great as in the petroleum cylinder stocks. This was pointed out by the writer in a former paper presented to the society in connection with a description of various viscosimeters. When, however, the oil must flow freely at ordinary temperatures and the feed of oil is restricted, as in the case of crank-pin bearings, it is not practicable to feed such heavy oils in a satisfactory manner. Oils of less viscosity or of a fluidity approximating to lard oil must then be used, and the differences among such oils, with respect to the quality of entering and leaving the spaces between the bearing surfaces, may readily be imagined to depend in a considerable degree upon differences of capillary property arising from choice of ingredients forming any particular mixture. We are led, therefore, to conclude that a test of durability must be a test of the rate at which two oils fed to the same journal, by the same device, and under the same circumstances, permit themselves to flow between the bearing surfaces and out of, and off of, the bearings, and that oil may differ in this respect with every variation of ingredient and viscosity. As necessarily there will be surplus oil which will escape from the reservoir and do no lubricating service before being led off of the bearings, it follows that particular condition of bearings will affect the amount of oil consumed, and hence our oil-testing machine, to determine durability, must be the very machine upon which the oil is used or a copy of the same.

To illustrate what would happen if this idea of testing durability was carried out with the large-sized Thurston testing machine referred to above, experiments were made feeding oil to the two oil cups in 50 minim doses under the same conditions as described above, except that the brasses were exactly like railroad car brasses, no provision being made to prevent the oil escaping in whatever direction it chose to flow. The machine was run until the friction began to increase above a minimum, and then another dose of 45 minims of oil was added to the cups without stopping or disturbing the machine. The oil was so regularly led away by the various escaping surfaces formed by the brasses, that in a series of about a dozen trials of lard oil versus sperm oil the latter averaged 11,000 revolutions in doubling the friction, and the lard 9,000 revolutions, with a variation of only about 20 per cent. from these figures in the various separate trials. But upon changing the brasses to another pendulum-head or framework, in which they fitted to all appearances with precisely the same degree of accuracy, a series of trials with lard oil averaged 14,000 revolutions to consume 50 minims. The slight difference in the fitting of the brasses in the pendulum-head by altering the affect of the various escaping surfaces increased the time necessary for the oil to escape. It seems hardly possible, therefore, that the quality of durability in lubricants can be measured, except by copying in a very perfect manner the exact conditions of arrangement, proportion and method of feeding which are to be used where the lubricant is to be applied; and even when this precaution is taken, the fact that in some kinds of service the limit to the consumption of oil depends upon the extent to which dust or other refuse becomes mixed with it, as in railroad car lubrication, and in the case of agricultural machinery, makes it almost hopeless to expect that laboratory tests can contribute very much of practical value in the determination of relative durability of lubricants.

That machines may be devised for the laboratory, however, and are, in fact, in use to-day in some of the latter, which will contribute much valuable knowledge to many questions of lubrication, through measurements of friction and metallic wear, is not to be denied, but the discussion of this part of the subject is not intended to be included in the scope of this paper.

Summaries of the Pipe Line Statements for April.

GROSS RECEIPTS.

The following exhibits the receipts of each company from the wells during the months of March, and April, 1890:

	March.	April.
Tidewater Pipe Co.	155,109 89	155,760 39
Octave Oil Co.	2,810 23	2,889 96
National Transit	1,305,921 53	1,305,130 45
Macksburg Pipe Line	45,361 81	53,904 80
Southwestern Pa. P. L.	527,739 41	532,707 85
West'n & Atlantic P. L.	263,707 27	264,941 05
Chas. Miller, P. L.	12,320 87	13,543 59
Total	2,312,971 01	2,328,878 09

AVERAGE DAILY RUNS.

The following exhibits the average daily runs in each month in the years 1886, 1887, 1888, 1889 and 1890:

	1886.	1887.	1888.	1889.	1890.
January	58,186	63,827	36,723	49,231	68,008
February	57,741	64,302	43,187	47,100	73,408
March	62,555	65,012	42,726	52,330	74 619
April	66,366	66,065	44,509	54,787	77,629
May	70,675	65,509	46,751	58,358	...
June	79,545	64,399	47,920	60,584	....
July	78,935	60,460	44,688	63,119	....
August	75,502	60,326	44,455	63,644	....
September	79,630	62,964	42,204	62,372	....
October	77,533	62,494	42,711	64,043	....
November	72,146	40,242	46,693	63,967	....
December	69,166	41,918	50,494	66,997	....
Year	70,089	59,817	44,429	58,878	73,416

TOTAL DELIVERIES.

The following exhibits the regular deliveries from each line in the months of March and April, 1890:

	March.	April.
Tidewater Pipe Co.	200,392 47	208,079 97
Octave Oil Co.	2,378 60	3,256 49
National Transit	1,789,526 28	1,952,526 03
Macksburg Pipe Line	35,040 63	30,975 36
Southwest'n Pa., P. L.	11,198 83	15,144 03
West'n & Atlantic P. L.	132,974 66	122,973 75
Chas. Miller P. L.	10,720 10	13,867 06
Total	2,182,231 57	2,346,822 71

COMPARATIVE STATEMENT OF SHIPMENTS.

The following is a comparative statement of the deliveries during each month in the years 1887, 1888, 1889 and 1890:

	1887.	1888.	1889.	1890.
January	2,301,272	2,308,050	2,354,570	2,679,206
February	1,993,126	2,192,141	2,286,812	2,181,309
March	2,342,209	2,071,291	2,283,645	2,182,231
April	1,949,459	1,941,503	2,242,546	2,346,823
May	2,289,455	1,786,976	2,257,175	.....
June	2,181,149	1,969,893	2,276,304	.....
July	1,911,948	2,105,348	2,626,065	.....
August	2,242,185	2,228,661	2,635,592	.....
Sept'mb'r.	2,364,625	2,314,414	2,580,052	.....
October	2,610,986	2,602,127	2,790,030	....
Nov'mb'r.	2,520,745	2,539,093	2,438,651	.....
Dec'mb'r.	2,640,839	2,411.157	2,699,422	.....
Total	27,347,998	26,470,655	29,472,864	.....

NET STOCKS.

The following exhibits the stock held by each of the pipe line companies at the close of February and March:

	March.	April.
Tidewater Pipe Co.	342,843 88	457,314 30
Octave Oil Co.	882 67	1,066 48
National Transit	7,727,249 50	7,555,569 46
Macksburg Pipe Line	301,856,38	324,785 82
Southwest'n Pa. P. L.	1,081,862 21	1,093,236 54
West'n & Atlantic P. L	990,967 91	993,222 14
Chas. Miller P. L.	16,891 07	16,567 58
Total	10,462,553 62	10,444,762 32

TOTAL NET STOCKS.

The following table exhibits the stock of all pipe lines on hand at the close of each month 1887, 1888, 1889 and 1890:

	1887.	1888.	1889.	1890.
Jan.	32,574,989	27,166,369	17,823,274	10,443,263
Feb.	32,473,612	26,330,579	16,836,963	10,378,141
March	32,232,310	25,637,531	16,146,788	10,462,553
April	32,358,442	25,084,034	15,593,373	19,444,762
May	32,077,638	24,787,503	15,144,724	.....
June	31,924,828	24,393,045	14,789,478	.....
July	32,014,326	23,708,924	14,017,625	.....
Aug.	31,729,292	22,838,886	13,354,221	.....
Sept.	31,423,863	21,856,121	12,657,149	.....
Oct.	30,906,810	20,576,064	11,926,743	.....
Nov.	29,655,488	19,507,233	11,412,772	.....
Dec.	28,357,112	18,604,474	10,904,783	.....

OUTSTANDING CERTIFICATES.

The following table exhibits the amount of oil in the National Transit represented by outstanding certificates and other vouchers at the close of each month in 1888, 1889 and 1890:

	1888.	1889.	1890.
Jan. 31	18,465,036 33	13,431,057 89	4,755,811 47
Feb. 28	17,692,036 33	12,658,057 89	4,727,045 15
March 31	17,572,036 33	11,903,057 89	4,517,826 23
April 30	17,013,288 67	11,063,057 89	4,326,964 69
May 31	16,978,097 17	10,002,057 89	.....
June 30	16,938,952 78	9,476,395 89	.....
July 31	16,728,217 82	8,443,443 89	.....
Aug. 31	16,855,307 39	7,221,449 89	...
Sept. 30	16,359,630 10	6,339,967 89	. . .
Oct. 31	15,552,769 35	6,447,775 89	.....
Nov. 30	14,862,923 07	6,349,007 89	....
Dec. 31	13,791,057 89	5,396,214 85	.....

NATIONAL TRANSIT CO.

Summary of report of National Transit Company at close of business April 30, 1890:

Gross stocks		10,382,130 70
Sediment and surplus		2,823,561 24
Acceptances, etc.	4,326,984 69	
Credit balances	3,231,604 77	
Total liabilities		7,558,569 46
Receipts.		
Runs from wells	1,305,130 45	
Other recipts.	645,505 54	
Total receipts		1,950,648 99
Shipments.		
Regular shipments	1,952,526 03	
Delivered to other lines.	166,790 00	
Total deliveries		2,119,316 03

TIDEWATER PIPE COMPANY.

Summary of report of Tidewater Pipe Company at close of business April 30, 1890:

Gross stocks		594,629 23
Sediment and surplus		137,314 93
Acceptances, etc.	16,000 00	
Credit balances	441,314 30	
Total liabilities		457,314 30
Receipts.		
Receipts from wells		155,760 39
Receipts from other lines		166,790 00
Total		322,550 39
Total Deliveries		
To refineries	000,000 00	
To other parties	000,000 00	
Total		000,000 00

SUMMARY OF STATEMENTS.

Statement made Apl. 10, 1889, relating to business of various pipe lines for Mar., 1890.

	Total liabilities.	Gross stocks.	Sediment & surplus.	Runs from wells.	Other receipts.	Regular deliveries.	Other deliver's
National Transit Co.	7,727,249 50	10,556,291 76	2,829,032 26	1,346,021 53	560,236 15	1,789,526 28	166,747 90
Southwest Pa. P. Lines	1,081,862 81	1,140,862 12	58,999 91	527,739 41	24,211 82	11,198 83	488,736 95
The Macksburg P. Line Co.	301,856 38	307,988 38	6,132 00	45,361 81	.....	35,040 63	.....
	9,110,968 69	12,005,132 26	2,894,164 17	1,879,022 75	590,437 67	1,835,765 74	655,484 85

Statement made May 10, 1890, relating to business of various pipe lines for April, 1890.

	Total liabilities.	Gross stocks.	Sediment & surplus.	Runs from wells.	Other receipts.	Regular deliveries.	Other deliver's
National Transit Co.	7,558,569 46	10,382,130 70	2,823,561 24	1,305,130 45	645,505 54	1,952,526 03	166,790 00
Southwest Pa. P. Lines	1,093,236 54	1,158,717 91	65,481 37	532,707 85	37,399 90	15,144 03	543,579 39
The Macksburg P. Line Co.	824,785 82	833,406 12	8,620 30	53,904 80	.....	30,975 36	.....
	8,976,591 82	11,976,254 73	2,897,662 91	1,891,743 10	682,895 44	1,998,645 42	710,369 39

HEAVY AND OHIO OILS.

The following table, exhibiting the condition of the Franklin and Buckeye pipe lines at the close of February, is entirely independent of other pipe line reports, and is not counted in the stocks and averages reported above.

FRANKLIN PIPE CO.

	Runs.	Shipments.	Stocks.
April	4,833 25	1,502 40	27,894 25
March	4,641 73	1,787 23	24,633 40
February	4,731 31	3,697 61	21,768 90
January	4,516 40	2,439 62	20,735 20
December	4,929 27	19,186 12	18,658 42
November	5,005 07	2,403 24	32,915 27
October	4,794 48	7,701 43	30,313 44
September	5,841 13	10,074 41	33,220 39
August	4,905 91	4,740 23	37,453 67
July	5,824 85	8,794 78	37,287 99
June	5,071 01	909 69	40,257 92
May	5,287 09	7,973 76	35,496 60

BUCKEYE PIPE LINE CO.

Credit balances		14,163,259 21
Total liabilities		14,163,259 21
Gross stocks	14,712,661 94	
Sediment, etc.	549,402 73	
Net stocks		14,153,259 21
Regular runs	842,236 68	
Other receipts	178 98	
Total receipts	842,415 66	
Deliveries, regular		115,222 50
Deliveries, other		805,274 22
Total deliveries		920,496 72

Exports of Mineral Oils for April, 1890.

S. G. Brock Chief of the Bureau of Statistics, submits the following statement of the exports of domestic mineral oils from the United States for the month of April, 1890:

MINERAL OILS, CRUDE.

(Including all natural oils, without regard to gravity.)

	Gallons.	Dollars.
Total for Apr., 1890	8,297,753	643,195
Total for Apr., 1889	5,303,680	357,536
Total for 10 months ending Apr. 30, 1890	76,574,745	5,528,907
Total for 10 months ending Apr. 30, 1889	62,175,829	4,298,729

NAPTHAS.

(Including all lighter products of distillation.)

	Gallons.	Dollars.
Total for Apr., 1890	629,589	53,360
Total for Apr., 1889	337,879	27,193
Total for 10 months ending Apr. 30, 1890	11,125,293	976,413
Total for 10 months ending Apr. 30, 1889	11,772,645	961,352

ILLUMINATING OILS.

	Gallons.	Dollars.
Total for Apr., 1890	33,769,935	2,539,338
Total for Apr., 1889	35,435,840	2,729,23
Total for 10 months ending Apr. 30, 1890	426,616,813	31,328,892
Total for 10 months ending Apr. 30, 1889	407,878,689	32,239,600

LUBRICATING AND PARAFFINE OILS.

	Gallons.	Dollars.
Total for Apr., 1890	3,126,824	473,800
Total for Apr., 1889	3,018,792	323,741
Total for 10 months ending Apr. 30, 1890	25,919,192	4,103,718
Total for 10 months ending Apr. 30, 1889	21,064,685	3,564,702

RESIDUUM.

	Gallons.	Dollars.
Total for Apr., 1890	120,960	6,670
Total for Apr., 1889	85,050	3,787
Total for 10 months ending Apr. 30, 1890	2,041,578	109,397
Total for 10 months ending Apr. 30, 1889	1,461,248	86,036

TOTAL EXPORTS OF MINERAL OILS.

	Gallons.	Dollars.
Total for Apr., 1890	45,945,061	3,716,293
Total for Apr., 1889	44,180,741	3,641,491
Total for 10 months ending Apr. 30, 1890	542,277,621	42,047,35
Total for 10 months ending Apr. 30, 1889	504,353,696	41,170,429

CHICAGO LETTER.

[Special correspondence of the OIL, PAINT AND DRUG REPORTER.]

CHICAGO, May 17, 1890.

The linseed oil market presents no specially new features. Prices are unchanged, but the general feeling is one of great firmness. There seems to be a general agreement upon the question of higher prices in the future, yet buyers evince no disposition to purchase in large quantities. Sales are numerous, and the aggregate volume of trade is very large, yet individual orders are confined, as heretofore to comparatively small lots. As compared with last year, the purchases for actual consumption show an increase, but the character of the trade is, on the whole, rather different. As usual, the combination is doing most of the business. The local trade appears to be unable to meet the crushers on any common ground, and jobbers allege that their sales are correspondingly small.

Oil cake is rather slow of sale. Nevertheless, there seems to be no tendency toward an accumulation of stocks, for the reason that not more than half the mills are running at the present time. The best price obtained by local crushers is said to be about $19 f. o. b here. There is not a very active demand, yet holders seem to rather indifferent. It is said that there has been considerable activity in the sale of future deliveries. Perhaps this may be one reason why producers appear to be comparatively indifferent as to whether they sell or not. The following table shows the direct exportations from this port for the periods herein indicated:

	Pounds.
Week ending May 17, 1890	2,5,510
Week ending May 10, 1890	227,165
Since January 1, 1890	15,498,577
Same period 1889	16,240,267

Apropos of the general subject of the production of linseed oil, into which—as a prime factor—enters the cultivation of flax, it may be interesting to some of your readers to remark that the State of Minnesota is interesting itself in the extermination of the insect whose ravages proved so disastrous to the crop last year. The State entomologist has submitted a report to the Governor upon the subject and it is likely official action will be taken in the premises The report sets forth the fact that flax is about the only crop that promises good results and urges immediate action.

FLAXSEED.

The official statement of the inspector showed 65,162 bushels of seed in public elevators at the commencement of the week, as against 111,631 bushels one week before, and 45,276 bushels on the corresponding date of last year.

The week's withdrawals foot up 25,010 bushels, against 33,631 of last week.

The amount of flax arriving which has passed under official supervision, as compared with last week and the same week of 1889, is shown in the following table:

Week ending—	No. 1.	Lower grades.	Total.
May 17, 1890 cars.	21	..	21
May 10, 1890	34	..	34
May 18, 1889	5	3	8

A comparative view of the daily movement is given in the subjoined statement, which is prepared from figures furnished by the secretary of the Board of Trade:

	Receipts		Shipments	
	1890.	1889.	1890.	1889.
Monday	2,536	164	481	400
Tuesday	3,598	535	8,671	3,544
Wednesday	1,218	....	4,299	....
Thursday	5,836	280	4,352	9
Friday	1,571	2,694	6,466	7,153
Saturday	2,013	4,620	14,953	3,721
Total	16,773	8,213	43,222	15,227
Last week	27,411	6,490	32,738	14,622

The cash market has presented few features of interest. No. 1 opened at $1 44, at which light sales on track were made, while a little seed free on board brought $1 45. Offerings

were light on Monday, as they have been all the week, and the demand was limited. Tuesday's sales were confined to seed to go to store, which brought $1 44. An easy feeling prevailed on Wednesday; bids were reduced to $1 43, although a few cars f. o. b. brought $1 44. Thursday's market was strong and firm, although the only sale reported was to a buyer who was supposed to be in want of a small quantity to make up a round lot. On Friday, there was a good demand and cash seed continued scarce. Prices were unchanged and trading was confined within narrow limits. To-day there were plenty of buyers, who bid the full outside price. Cash seed, however, was scarce, and sellers were not particularly numerous. The market for car lots was $1 45, with bag lots at a slight discount. Reported sales of cash seed on the floor of 'Change foot up 10 cars, 2,000 bushels and 171 bags, as against 15 cars, 1,000 bushels and 121 bags last week. The range of prices has been $1 43 to $1 45, as against a uniform price of $1 54 one year ago.

The speculative market opened on Monday with August, September and October deliveries saleable at $1 30, and May delivery brought $1 44. Substantially the same state of affairs existed on Tuesday, although there was, if anything, a trifle less inquiry. Transactions were confined to year delivery, which sold at $1 30. On Wednesday futures were lifeless. May was nominally easier, buyers bidding $1 43. New crop futures were firm and bids advanced, but no business was reported. September and October were saleable at $1 31, with deferred deliveries at $1 30. May was quotably $1 45 on Thursday, while new crop deliveries were in demand, with fully former prices bid. For September $1 31 was bid and $1 32 asked. October sold at $1 31 and $1 30 was bid for year. Yesterday there seemed to be a falling off in buying orders and little business was done. May sold at $1 45. For August deliveries $1 32 was bid. September was saleable at $1 31, and several sales for October delivery at $1 31 were made. Year delivery $1 30. To-day May was saleable at $1 45; August at $1 32; September and October at $1 31 each, and year delivery at $1 30.

So far as reported, speculative sales during the week have been as follows: Of May, 2 cars and 11,000 bushels; of October, 11,000; of year, 12,000 bushels and one car.

OILS.

In the cotton oil market precisely the same state of affairs exists as was reported a week ago. Holders are very firm in exacting the full extent of the recent advance, while, on the other hand, buyers appear to be equally resolute in refusing to purchase at current prices. The result has been a comparative stagnation so far as new business is concerned.

Cablegrams from Holland report the oleo market quiet but firm. In other words, there is comparatively little demand, while on the other hand, holders exact their full quotations. That business has been active is shown by the fact that the week's sales have amounted to about 53,000 tcs, or 400 tcs below the sales of last week. The impression is settled here that Dutch churners have very light stocks and are disposed to buy. The weather abroad is reported to have been so mild as to have interferred with the sale of natural butter, with which oleomargarine has promptly sympathized. A conservative estimate of stocks places the amount afloat at 15,000 tcs and the quantity in Dutch importers hands at about the same amount, making the total supply at Rotterdam equal to about 30,000 tcs. This week's exports have been 5,322 tcs, as against 6,277 tcs during the previous week. Advices from abroad are to the effect that 58 fls have been obtained for extra brands, and these figures represent the outside of the market. A single sale of inferior is reported at 27 fls. The local market continues to be stale, flat and unprofitable.

PAINTS.

There is very little of interest to be chronicled in regard to the paint market. Generally speaking, prices are being well maintained and dealers seem to be reasonably well satisfied with the current volume of business. In fact, the trade in paints appears to have recovered from the temporary depression of a week or two ago. How long the improvement may continue remains to be seen.

DRUGS.

The drug market has been reasonably active during the past week, but the improvement has not been specially brisk. As compared with the corresponding period of last year the increase in trade seems to be not much, if any, more than normal. There is certaily no boom. The general list is firm and exhibits comparatively few changes in any articles of importance.

CALUMET.

Synthesis of Grape Sugar.

Last month reference was made by the *Pharmaceutical Journal and Transactions*, to a series of operations that had resulted in the synthesis of the compounds of the mannite group, with the exception of grape sugar, the starting point having been acrose, the sugar obtained first in the condensation of glyceric aldehyd and afterwards of formic aldehyd, since then Professor Fischer, in the *Berichte*, has announced, among other things, the synthesis of grape sugar. Theoretical considerations had led to the conclusion that d-mannose, which was first obtained by the oxidation of ordinary d-mannite and afterwards more cheaply by hydrolysis of the "reserve cellulose" occurring in many plants, especially in the endo-sperm of Phytelephas, is a stereo-isomer of grape sugar, and that its oxidation product, mannonic acid, is a stereo-isomer of gluconic acid. As both mannose and mannonic acid had been produced synthetically the conversion of either of these into the corresponding glucose compound would extend the chain of synthesis to that series. Taking the acids as being the most convenient for working with, on account of their greater chemical stability, it was assumed that d-mannonic acid might stand in the same relation to gluconic acid either as racemic acid to one of the two optically active tartaric acid, in which case it should be decomposable into gluconic acid and a second isomeric acid, or as racemic to mesotartaric acid, in which case either acid would be convertible into the other. Attempts to split up mannonic acid failed, but it was found that when the lactone of either mannonic or gluconic acid is heated with chinoline to 140° C., a mixture of the two acids is formed, just as a mixture of racemic and mesotartaric acids is formed when either of these acids is heated with water to 170° C. The two acids can be separated by means of the different solubilities of their cinchonine and brucine salts. The gluconic acid separated from the mixture resulting from the treatment in this way of d-mannonic acid, on reduction by means of sodium amalgam, yielded a sugar, which when purified corresponded in every respect to pure crystalized anhydrous grape sugar.

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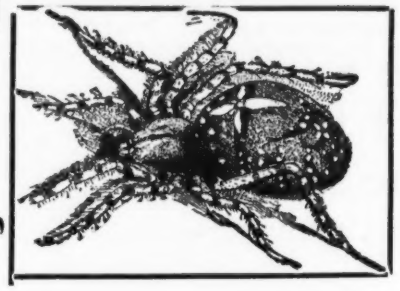
"The Excellence of Our Product the First Consideration."



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A man thoroughly competent to manufacture lime grease.

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Care this paper.

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Agents and Wholesale Dealers for the sale of Paper for graining wood in every specialty and variety. For particulars write to the manufacturers: RICHARD THOMAS & CO., Vienna, VI., Canalgasse 9, Austria.

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WARREN, PA., May 17th, 1890.

To whom it may concern.

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WANTED

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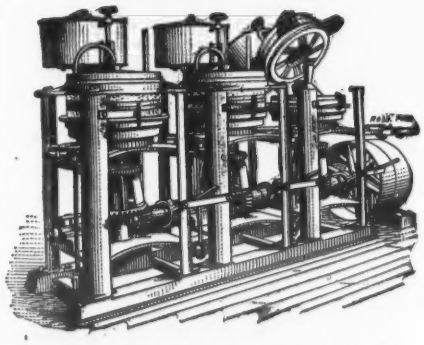

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PAINT MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 46.

TUESDAY EVENING, May 20, 1890.

White Lead, Zinc, Etc.

Pig lead shows decided improvement. Since our last, consumers have come into the market and have taken some 700 tons at 4.07½@4.10c. for present delivery. Speculative interest has also revived, and under more spirited bidding the price has crept up to 4.15c. Stocks here are said to be low, as there is very little coming forward from the West. The improvement is largely due to the prospect of the passage of the McKinley tariff bill, including the provision for a duty of 1½c per ℔ on lead in imported silver ores. The situation is discussed at length in our editorial columns. Messrs. Everett & Post write from Chicago on the 17th inst.: "Lead has been dull at this center during the week, but prices very firm, and sales are reported at 3 95@4c. The high quotations have not tempted our local consumers to any large extent. At the close 4c is asked and 3 95c freely bid. The permanency of the present market at St. Louis has been fairly tested by sales of 1,500 tons spot and June lead (largely for Eastern shipment) at 3 85@3 90c, and quotations at the close are higher at 3 90c bid and 3 95c asked."

White lead continues to sell freely to supply current wants, both corroders and grinders finding plenty to do in filling orders for prompt delivery, though they find business on forward contracts much slower than usual at this season of the year. Prices are maintained at 7¼c per pound for lead in oil, in lots of 500 pounds and over, 60 days, or 2½ per cent. for cash in 15 days from date of invoice but not otherwise. Corroders will prepay, or allow the actual freight on all shipments of 500 pounds and over to all railway stations and steamboat landings during open navigation. Lead in transit from factory to destination, and lead sold but not delivered, will be protected against a decline. On June 30 and December 31 the corroders will pay the following rebates, if the quantities specified have been taken by those dates, and provided that the buyer has maintained their prices in making sales, viz.: To buyers of 3 tons and less than 10 tons 4%, 10 tons and less than 25 tons 6%, 25 tons and less than 50 tons 8%, 50 ton, and upward 10%. To make up the required quantity, all purchases of regular corroders' brands of strictly pure white lead, red lead and litharge may be counted. Dealers may allow out of their own rebate the rebates offered above, but only to actual buyers of the quantities, and payable at the times specified herein. Corroders reserve the right to discontinue these rebates should they find it expedient to do so, but in such event the rebate will be paid on all lead delivered and entitled to the same. Dry white lead is quoted at 6¾c in casks and 7¼ in kegs, subject to the same discount, terms and rebates as lead in oil.

French zincs are unchanged in price, and have been in fair jobbing request. American oxide of zinc has been moderately active in a jobbing way at former figures.

Dry Colors.

REDS.

It is not possible to record any fresh items of interest in the general market for the several pigments, the week having been devoid of feature. The demand has been of a jobbing description and of fair proportions, but being supplied in the regular way, no special attention has been attracted to the trading. Values have been unchanged.

English Venetian Reds have continued without feature, the trading being of moderate dimensions and of a jobbing character entirely. Prices have been without alteration and have ruled steady. American makes are reported unchanged in value and have been in fair request.

Orange Mineral. A fair jobbing demand has prevailed during the week under review, with stocks, at the moment, apparently adequate to the demand and values unchanged. American grades have found the usual outlet and are without quotable change.

Cobalt Oxide—The market has been wholly without feature since we last wrote, and dealers have been mainly occupied in supplying their contract orders. Prices have been unaltered.

Red Lead and Litharge—Dealers report a moderate consuming demand, with the market identical with a week ago and prices unchanged from the previously quoted schedule rates.

Quicksilver Vermilion—The crude material is quoted at high figures, and it seems the general opinion of makers that prices are not yet on a proper basis, in view of the increased cost of the raw materials. No effort has been made, however, to advance values still further and it appears doubtful if any steps will be taken in this direction in the immediate future. The demand during the week has been of fair jobbing proportions, and no features can be noted.

Carmine—Stocks have been in fair request since we last wrote, and an uneventful jobbing trade has transpired. Prices are fairly steady and are not quotably changed.

BLUES.

The market for blue pigments cannot be said to have changed in any particular, since our last writing. The business at hand has been of the ordinary jobbing description and has been accomplished at previous figures in all instances, while a steady tone has been evidenced in the giving of quotations.

GREENS.

Green pigments have received their full share of the current demand, and taken altogether, a fairly satisfactory week may be said to have been experienced. Values have been wholly without alteration, with a steady tone prevailing. There has been a continued absence of fresh business in paris, dealers being mainly occupied in shipping supplies on contract. No features can be noted, while prices have been stationary.

Miscellaneous.

Sulphate of Barytes—The higher prices for lead and the scarcity of zinc, together with the taking from the market of the supplies from certain sources, as previously noted, continues to inconvenience the dealers in the matter of supplies, and there is only a limited

—(Established 1876.)—

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Reliable Umbers, Siennas, Ochres, Vandyke Browns, Etc. Moderate prices. Qualities rarely found except in artists' tubes.

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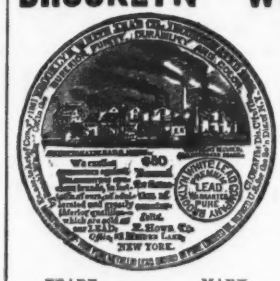

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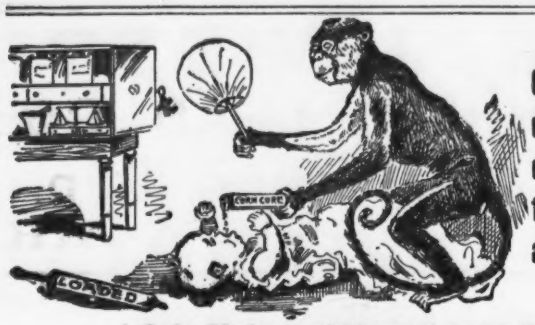

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quantity available, for which high prices are asked and obtained without difficulty. The trading has been necessarily restricted by this absence of supplies and from present appearances there seems no immediate chance of relief in this direction. We quote $19 50@22, according to grade and make.

Chalk—There has been an absence of features in this market, and in consequence of the lack of offerings, there is nothing to test the market, but the feeling seems to be an easy one, though not specially weak. We can learn of nothing chartering on the other side.

China Clay—Though there is no overstock of the better qualities, a fair quantity is available, and prices show no change from a week ago. The demand has been fair and on the jobbing order, no large lots having changed hands.

Talc has been in good supply, with an ordinary jobbing trade prevailing, and prices unaltered from a week ago. No features are apparent.

Terra Alba—An arrival of a considerable quantity of French during the interval since we last wrote has relieved the immediate scarcity existing on the better kinds. The ordinary grades are in sufficient supply for all requirements, the demand for all qualities being fair at the moment. For spot supplies of foreign we quote 90@95c, as to quantity, while parcels to arrive are held at 85c.

Whiting—The demand can hardly be said to be up to expectations, and prices also appear to make the manufacturers rather ill at ease, being considered low. There have been no new developments in the industry.

Glues.

There has been a tolerably active demand along the whole list, and very low grades are becoming scarce. Foreign glues are in good request, in view of advanced figures through tariff legislation.

Varnish Gums.

The following is Messrs. R. & W. K. Walker's kauri gum report, dated Auckland, New Zealand, April 21, 1890:

Since our last circular there has been an active demand and prices are rather higher for all descriptions except darks, the chief demand being for the better qualities of ordinary and rescraped gum. We are buying at the following rates per ton: Poor to medium quality, £37@40; fair to good ordinary, £41@42; east coast (good lots), £58; superior rescraped (scarce), £71@73; medium dark, £26; good dark (mostly sound), £30@32. These quotationsare for ungraded gums as received from the fields. Arrivals for the four weeks ending April 18, 500 tons; shipments for London per the "Pleiades," April 5, 258 tons; shipments for New York, per the "Essex," April 18, 513 tons; total, 771 tons. The "Willowbank" is now on the berth and is expected to sail for London in about five weeks. There is no vessel in port for New York.

Glass.

WINDOW GLASS.

What with meetings of manufacturers and jobbers in the West and of importers in the East, the window glass market presents more interesting features than it has for some time past. The particulars of these meetings and the results obtained are given in our editorial columns and in the letter of our Pittsburg correspondent and it is unnecessary to repeat them here. The American manufacturers meet again next Thursday, in Pittsburg, when it is expected that some action affecting the prices may be taken. As the result of the importers meeting in Boston last Wednesday, the price of small lots is now somewhat higher. The discount is 75@10% but buyers of 50 boxes or more within a calendar month are allowed an extra discount of 5%. This is the only change that has occurred in the local market since our last, the demand for both domestic and imported glass being fairly satisfactory.

PLATE GLASS.

Dealers have nothing new to report, the demand for plate glass keeping about up to the average and prices being steadily maintained. Discounts are 50 and 10% on sizes over ten square feet, and 60% on smaller glass.

Messrs. Harrison Bros. & Co. are making extensive alterations at their New York office. Connection is being made with the building of C. N. Crittenton, adjoining and the latter house will occupy the lofts which have heretofore been occupied by a number of tenants. After the alterations are completed the interior of the building will be handsomely painted.

Utilization of Waste in Glue Making.

The clarification of glue is accomplished very often by the white of eggs, or by alum, and sometimes by sulphate of alumina. It is best performed as follows: Take 2 to 4 lbs. of alum, and place in about 50 lbs. of boiling solution of glue. When this is thoroughly mixed, place the whole of it in about 150 lbs. more of the glue, and boil the whole of the solution for about ten minutes, when it is allowed to settle, and is drawn off.

Another receipt for clarifying glue is to take ¾ lb. of powdered borax, together with 3 oz. of purified potash, and dissolve in boiling glue. When dissolved it is added to the boiler and will be found to be sufficient for clarifying 100 lbs. of glue. But although clarifying the glue gives it a much better appearance, yet its being clearer does not always denote its value; for a glue may not always be of a clear nature, and yet may possess power in adhesiveness, more so than a sample that is both clear and bright. For instance, in Russian glue, which is known for its quality, white lead is often added, and this renders it of a turbid nature. But one must exercise his judgement in this matter, and undoubtedly a glue that possesses a turbid appearance is very often suffering from an incipient decomposition, or at least, it indicates that it is unsound in quality.

Again, a distinction should be drawn between its clearness and color, as a very dark-colored glue may be clear, and a pale-colored glue turbid. Yet both specimens may be of an excellent quality, and it is an important fact that where clearness is desired, it is very expedient to see that the preliminary operations of preparing the glue stock, both in the process of liming and washing, and in the removal of both blood and fat, and the subsequent filtration of the solution through straw and filters, be well attended to. Then when settling, it is desirable to keep the solution as long liquid as possible, so that the greatest quantity of the foreign matter may fall to the bottom, and leave the upper layer perfectly clear.

The object of clarifying by the above chemical methods is to remove the albuminous and other extractive constituents of the gelatinous solution, and to convert the free lime that is present in the solution to the sulphate of lime; which, being heavy soon falls to the bottom, and prevents putrefaction; and the alum which is used attains this object without injuring the glue itself.

Another method of removing the lime, is by means of oxalic acid, which forms an insoluble oxalite of lime; and the organic matter may also be removed by taking off the scum, when the gelatinous mass is boiled with a solution of oak bark, or such a substance as hops.

Failing all these processes to clear the glue solution, it is not wise to proceed further, as it may very possibly injure the glue, and animal charcoal for filtering is not used advantageously. But there is a process that may be employed for decoloring the glue, which may prove of service; and that is accomplished by bleaching the glue stock, before boiling, in a bath composed of chloride of lime. The glue stock should be moist, and the bleaching bath should be composed of about 8 oz. of chloride of lime to 100 lbs. of glue stock. After laying in this for an hour, sufficient hydrochloric acid is added, so that it gives an acid reaction with blue litmus paper.

Another process for bleaching is one by sulphurous acid, and may be employed as follows: The pieces of hide and skin requiring to be bleached are placed in water till they begin to putrify; they are then taken out, and washed in running water, where possible; they are then placed in a closed vessel, thoroughly mixed together with the acid, the proportion being 2½ parts of acid to twelve of the wet material. The pieces are allowed to stand by for 24 hours, when the acid is drawn off, and the process again repeated. When they are next taken out, they should have the odor of the sulphurous acid, which is a sure sign of the process being complete: They are taken out, and well washed free from the acid, and kept in warm water, at 108 degrees, for 24 hours. After this, they may be taken out, and converted into glue.

A recipe for coloring glue yellow is to take for every 50 lbs. of glue 8 to 16 ozs. of fine powdered soda, which is dissolved in boiling glue, and well stirred, till the requisite color is obtained. Another recipe for whitening glue, is to take for every 50 lbs. of glue, 1 lb of sugar of lead, which is dissolved in a hot solution of the glue, and then mixed with the whole quantity in the boiler. When this has been done, add 1 lb. of pulverized white vitriol (sulphate of tin), which has also been pre-

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Warranted Unequalled in Body, Strength and Fineness.

70 Per Cent. Iron and Free From Sulphur.

Grinds smoothly with 18 lbs. oil to 100 lbs. oxide.

CLINTON RED HEMATITE,

For coloring Mortar, Brick, Tile, etc., equal to Turkey and Florentine Red.

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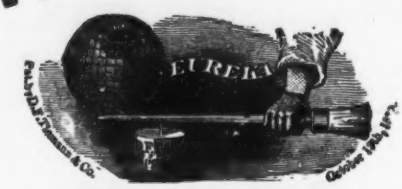

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Dry, in Oil, and in distemper,

Colors for Paint Grinders a Specialty.

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PRICE $2.00. MANUFACTURED BY

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viously dissolved in a small quantity of the hot solution.

Moulding the glue is best performed in boxes of pine about 4 feet long 8 inches wide, and 6 inches deep, the wood must be smooth and watertight, and slightly converge together at the bottom. Before filling with the solution of glue, the boxes are often washed out with milk of lime, or else given a thin coat of oil, stearine, or paraffine, to prevent the solution penetrating the wood, and adhering to the sides. The solution is poured into the moulds through a funnel, which has attached to its upper part a kind of sieve which acts as a strainer, and prevents all lumps, etc., from passing through. It is allowed to remain in these moulds from 12 to 24 hours to congeal, according to the temperature and the weather. The congealed glue is then loosened from the sides of the mould by means of a long knife kept wet with water, or else by a wire on a frame, or several placed together.

The drying operation is one of the most difficult, and needs to be carried out with the greatest expediency possible, for unless carefully watched, the glue is liable to be spoilt in this last process. It is often dried in the open air, or in covered sheds, but care must be taken to keep it in the shade, out of the reach of the sun, as it might then dry too quickly, or become melted by its heat. It must also be protected from frost, which causes it to crack, and from the rain, which would injure it. When dried in sheds they should be open, so that a free circulation of the air may be obtained. This, perhaps, is best accomplished by placing the wooden layer in the position of an open Venetian blind, and thus be able to well regulate the supply of air. But when the weather is bad these do not always answer, and the glue has to be dried in rooms heated by steam pipes. These rooms are so constructed that the floors are all open, so that the air which comes in at the bottom, and which is there heated, rises to the top, taking the moisture with it, where it escapes. A fan at the top is also a very good means of promoting circulation. The great care to be observed is that the temperature does not rise above 77 degrees Fahr., or the glue may melt, and thus cause considerable waste. The glue, when cut in slices, is placed upon a kind of net, which is placed upon a frame, and during drying the slices are changed over several times to facilitate the drying. When nearly dry they be placed in a room of a higher temperature, and rapidly finished.

Window Glass Statistics.

The President of the American Window Glass Manufacturers' Association, Mr. F. L. Bodine, says in his monthly report that there were 840,913 boxes of glass, of fifty feet each, on hand in the country on May 1st against 841,056 on the corresponding date last year. In commenting on this statement the *National Glass Budget* expresses the opinion that President Bodine's estimate is too high in view of the brisk demand which has prevailed this blast. Our contemporary thinks that stocks cannot be nearly as large as they were a year ago, even with the increased number of factories in operation.

The imports show a slight decrease, being only 329,883 boxes for the first four months of 1890, as compared with 369,133 for the first four months of 1889. The increased price of foreign glass and the constantly improving quality of American glass has caused this decrease in importations. The average price per pound in April, 1889, was ·0192 and in April, 1890, it was ·0219.

The demand for double thick this year has exceeded every other year and still continues. This shows that the better and larger qualities are finding readier markets.

The Trade in Pepper.

The statistics relating to black and white pepper at this port are strongly in favor of moderate prices, and it is not the least surprising to find that both descriptions are much cheaper than they were at this time last year, or at a period longer ago than that. The landings of black pepper in London this year have been 2,960 tons, against 1,810 tons in 1889; but, notwithstanding a decided improvement in the deliveries, say of over 100 tons of each sort, for the first four months of 1890, the stock of white pepper alone exhibits a substantial increase of 420 tons above that of the preceding year. Prices, it is satisfactory to state, have considerably fallen within the past two years, and it is not improbable that a further decline will take place as the season advances. Speculators may do much towards keeping the value of the article as high as possible, but their efforts in that direction are likely to be useless while supplies keep on coming in abundantly and largely in excess of the trade requirements, and, even if quotations were again to materially give way, they would still be higher than they were many years ago, when black and white pepper of fair average quality had a range of 4d to 5¼d. per lb. Until within the last week the prices were about 4¼d. to 6d. and 7½d to 9¼d. for the two leading kinds, as compared with 5¼d. to 6¾d. and 9d. to 10d. at this time last year, and 6¼d. to 8d. and 10d. to 11¾d. per lb. early in May, 1888. The present value, therefore, appears rather low than otherwise, and is quite in accordance with the usual laws of supply and demand, which determine with unerring precision, sooner or later, whether any commodity is to be dearer or cheaper than it was in a former season.

The rates quoted above are of course understood to apply to the peppercorns whole as imported, and for large parcels as sold in Mincing-lane on the spot and to arrive; but for preparations of the article ready for home use it is somewhat difficult to give quotations, as these are fixed by the wholesale dealers themselves, who, for the convenience of their customers, grind pepper and other spices at an extra charge, which for pepper may be said to vary from ½d. to ¾d. per lb., and this is supposed to cover all loss between the landing and the re-weights, as well as the percentage of waste that occurs in the grinding process. The real commercial value of pepper being thus ascertained, it requires little or no analytical knowledge to discover, when "ground" pepper is offered for sale, whether it is genuine, as represented, or not, and only the application of a simple rule is necessary to test the truth of the statement as to its pure and unadulterated condition. By way of inviting orders more easily the purveyors of a spurious article will offer it at 1d. to 1½d. per pound below the recognized price of the genuine descriptions, without allowing she customary margin for grinding and other expenses, and this fact alone should always be sufficient to open the eyes of the retailers to the barefaced fraud that the sellers of the goods are trying to perpetrate upon them. Persons possessing an intimate acquaintance with the usages of the trade, and observing the state of the markets at one time and another, must know very well that, when asked to make purchases of the character here described, the undoubted article of importation could not be produced for the money, and therefore it would be self-evident that there was an intention to deceive an unwary buyer. The difference of 2d. to 3d. per lb. between the value of the highest and lowest qualities may in a measure render it difficult to detect Penang, Singapore, or Malabar ground pepper from the artificial or manufactured product, but the question could soon be decided by tracing its origin and insisting on seeing samples of the pepper before it was passed through the "mill" as properly ground.

This matter has had the serious attention of wholesale dealers, no less than that of the brokers in "The Lane," who, to avoid endless disputes, vexatious claims for allowances, and troublesome cases of arbitration, have drawn up a set of regulations (eight in number) to serve as a guide to the trade generally in their transactions in the article pepper, and we doubt not that they will prove very useful to all who wish to see their common business dealings placed upon a satisfactory basis. The rules referred to, which will be found on another page, have the special sanction and approvel of the General Produce Brokers' Association, established in London, and are acted upon as a guide in all the sales that are reported in the market. From a perusal of this list of instructions it seems pretty clear that nearly every parcel of black or white pepper which arrives contains a greater or less proportion of foreign or earthly matter, such as "stones," "dust," "clay" and "stalks," and it is also shown that there is a wide difference in the weights of various growths. For instance, light or "shelly" pepper—the worst quality that comes to hand—weighs only 3 lbs. 5 ozs. to the imperial gallon measure, while clean, heavy, or "shot" kinds give 4 lbs. 13 ozs. to the same quantity; and according to the additional weights the latter would be worth a price equivalent to 1½ lbs. avoirdupois more than that for the lower and dusty gaade. This plan of estimating the value of the whole peppercorns by weight is comparatively a new one, as it had hitherto been done by taking them up in handfuls and holding one against the other; and although some uncertainty may have occasionally crept in when the valuer had to distinguish the heavy from the "half-heavy," or the medium weight from that which was not particularly light, good judges were seldom wrong in their estimate of which was the best pepper and what it ought to fetch. Yet, for all this, actual weight is a closer approximation to the truth than mere guesswork, practised as it might be; and when we have the article divided into four distinct classes, as now, the difficulty of ascertaining its positive value is reduced to a minimum.—*The London Grocer.*

Steatite as a Pigment for Anti-Corrosive Paint.*

BY FRANK C. GOODALL.

How to efficiently protect the iron and steel work of our ships, bridges and other iron and steel structures from rust and premature decay is a question which has long occupied that part of the public mind interested in the matter; and the fact that up to the present time no complete or satisfactory answer has been forthcoming is my justification for occupying your time with this short paper.

During my connection with various large ship-building establishments, and latterly with the Corporation of the Trinity House, I have had many occasions to observe how badly most materials used as anti-corrosive paints answer their intened purposes; and from my personal observation I have been led to devote considerable time and attention to finding a suitable material with which to form the basis of a protective paint, to take the place of those pigments, too numerous to mention, which have more or less failed in their object.

For many years I had the impression that the mineral steatite, commonly known as "soapstone," if it could be incorporated into an elastic paint, which possesses qualities incomparably superior to the metallic oxide pigments generally used; just such qualities, indeed, as are needed in an anti-corrosive paint; and many were the unsuccessful experiments I made in this direction. The chief difficulty I met with in carrying out my ideas was this, that steatite, when mixed with an ordinary paint, viz., with raw or boiled linseed oil, driers, turpentine, terebine, &c. (steatite forming the basis), would neither properly mix nor dry hard, and was quite useless as a protective paint. After further experimenting, and finding oil, driers, terbine, &c., would not act with steatite in the formation of a paint, I wrote a letter to the press calling the attention of shipowners and paint manufacturers to the subject. Immediately afterwards I received numerous letters and calls in reference thereto. Among the first to visit me was a member of a well-known firm of paint manufacturers, who stated on their behalf that they had also experimented with steatite in the same direction, and that they had succeeded in embodying it as a pigment for paint with a quick-drying varnish; that their experiments up to date had proven that steatite as a pigment for an anti-corrosive composition was a success, and that they had acquired patent rights for the combination.

Subsequent experiments and trials by myself have shown their statements to be well founded.

Steatite, soapstone, or potstone, is a soft magnesian rock generally associated in its natural state with serpentine, chlorite, and talc, and is found in comparatively small contemporaneous veins in various parts of China, Chili, Italy, Germany, England, and elsewhere. It is incombustible, and for this reason is largely employed in the manufacture of asbestos goods, firecliay, etc. It is a good non-conductor of heat, an isolater of electricity or galvanic action, and is not affected by the acids which attack most metals. It is, in fact, unchangeable and unaffected by the highest and lowest temperatures or the various atmospheric influences to which it may at any time be exposed.

Steatite has for generations been used in China and Japan for making idols, ornaments, images, etc., and also as a protective paint wash for the coating of obelisks, and other structures built of stone susceptible to atmospheric influences, and it has been used to coat the native vessels inside and out, and, curiously to relate, as an anti-fouling paint for their bottoms. These obelisks, structures, etc., have been well preserved, owing to the qualities possessed by the mineral as already described.

On touching a piece of steatite with the hand it will be observed to have a smooth, soapy nature (hence its popular name of soapstone). This remarkable smoothness, or soapiness, is due to the extreme minuteness of the atoms of which it is composed and to which it is possible to reduce it, and is one of the most striking characteristics of the mineral. Its extraordinary fineness and adhesive nature will be more fully realized when I tell you that it is impossible to write with a piece of the mineral upon plate glass, the steatite finding a ready hold on its highly polished surface.

It is this property of the mineral which in my opinion gives it its greatest value as a basis for protective paint, enabling it to secure, without the slightest chemical action, full and permanent adhesion to the close fibre of steel and iron, which the greatest number of paints in my experience have hitherto failed to do.

With regard to this statement, I am now in a position to speak from personal observation, and to say that paint containing steatite as a pigment will find perfect and permanent adhesion when applied to the true surface of the smoothest steel, and that several large steamers already coated with it have shown no signs of rusting or the paint scaling off. My experience also with this composition on iron ships has been precisely the same.

In the case of iron vessels, as you are all, of course, fully aware, the corrosion does not proceed in the same way as with steel, and the after effects are not so serious.

Even in the case of new iron ships it was a common thing to see them dry-docked after running six or eight months, with their bottoms in a state of considerable corrosion, and with hardly a vestige of paint left. However, the rust roughened the surface of the plates, and, after having been cleaned and repainted, the paint was able to find far better adhesion, and apparently all alarming indications of further damage were gone. With steel ships it is very different. Many here have, doubtless, observed the result of using metallic oxide pigment paints on steel ships during the last five years, and most of us have seen steel vessels, which have been painted at proper intervals, with we will presume the best paints procurable, deteriorated to such an extent that it has become necessary to cut out and renew many of the affected parts, thereby causing great delay, inconvenience, and expense to the owners. The rusting is of an uniform character, and leaves the plate almost as smooth as when the ship was built, and when cleaned and repainted the oxide again accumulates with exactly the same results, but in this case, owing to the more rapid corrosion of steel when exposed to hostile agencies, it is only a matter of a few months to find great damage existing and mischief going on.

Hence the paramount importance of finding a composition which will permanently adhere to the fiber of the metal, and so prevent the corrosive action which has proved such a constant anxiety and heavy expense to ship-owners.

That Lloyd's Registry have recognized the susceptible property of steel and the inefficiency of the ordinary paints in present use, is evident by the fact that they have commenced to gradually reduce the advantage in the way of thickness of material over iron ships, formerly conceded to vessels built of steel, and they acted wisely when they decided, after classing steel ships in their highest grade, and finding that they were continually corroding inside and out in spite of protectives, to insist upon additional heaviness to the scantlings in order to prolong the life of the ships to a reasonable period, or at least to a period equal to that of an Iron-built vessel.

The reduction originally allowed by Lloyd's Register to steel-built vessels was 20 per cent. (although, as a matter of fact, owing to some iron being used in the construction, it seldom exceeded an aggregate of 16 per cent.); but at the present time it varies from 9 to 12 per cent. in the aggregate, according to the requirements of Lloyd's Committee and the quantity of iron used.

Taking as an example the case of a vessel, say, of 4,000 tons dead weight, the addition to scantlings which Lloyd's Registry have added during the last four years, involves an additional first cost of £450 for material and labor, and reduces the ship's carrying capacity from 35 to 40 tons.

I think you will agree with me that these figures are important, as showing the comparatively growing disadvantage that steel shipbuilding labors under; the only antidote and remedy for this disability is the introduction of a real permanent protective coating for the steel of which these ships are built.

My argument is that there is in steatite the basis of a real and permanent protection, and I venture to say that when such a composition is generally used by ship-owners, and Lloyd's Registry have recognized that by its means the existing incessant corrosion is permanently restrained, they will certainly give the subject consideration, viz., the advisability of reducing the steel scantlings to the former sizes.

During the time these amendments to Lloyd's rules were made, competition in shipping was so keen that shipowners could ill afford to bear any additional cost, coupled with reduced carrying capacity; and there is no doubt they would appreciate a material which will not only permanently their ships, but will probably enable them at no distant period to build their steel ships of the former carrying capacity and at a consequently reduced cost,

Now, when I say that steatite will effectually protect steel from rusting, I do not mean that it will protect it in the same way that a metallic oil paint protects iron, but that once properly applied to the true surface of the steel, it is indestructible, and there will be absolutely no rust on the parts coated with it, or, in other words, such ships will attain a much greater age than iron ships have hitherto done.

It may be well at this moment to refer to the causes of rusting. They are:

Firstly, contact with sea water and various acids it may contain.

Secondly, atmospheric influences.

Thirdly, electric or galvanic actions.

Now, the first two can be cured by preventing the sea water and the atmosphere from coming into contact with steel. In order to do this it is necessary to have a paint which will adhere to the fiber of the steel, which will be perfectly air and water tight, and which will have sufficient elasticity not to crack with the vibration of the vessel or the slight expansion and contraction of the steel. This elasticity may, in my opinion, be obtained in steatite by using a suitable varnish to convey it to the steel in the form of paint, which varnish should contain evaporating spirits, combined with a certain proportion of slow drying oils, in order that the paint may dry and at the same time keep its elasticity. Varnish alone (as I have often practically proved) is porous, and admits the atmosphere and moisture to the body coated with it; but when mixed with steatite, owing to the minute atoms of which it is composed, as already described, the fine pores are completely closed, and the paint becomes air and water tight.

It is thus that steatite answers the double purpose of enabling the composition to adhere to the steel, and making it completely air and water tight. Of course under the continued influence of sea water the varnish would gradually perish from the outside, and the coating

*Read at the Session of the Institution of Naval Architects, March 27, 1890.

THE PARIS UNIVERSAL EXPOSITION, 1889.

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would have to be from time to time renewed, but against atmospheric influences the protection would, in my opinion, last many years.

The third cause of rusting is due to electric or galvanic actions. At the spring meeting of this Institution in April last, Professor Lewes treated this subject most exhaustively, and I would not presume to attempt to throw any fresh light upon it; I will therefore simply confine myself to the question: To what extent can steatite be used to prevent the action of electric or galvanic currents upon iron and steel?

The gums of which varnishes are manufactured are, like steatite, isolators of electricity or galvanism. Consequently, if a vessel's iron or steel plates inside and out, together with all iron or steel attached thereto, are properly coated with steatite paint, they are therefore completely isolated and unable to set up electricity or galvanism from the atmosphere, sea water, etc., as they certainly do if coated with paint made from metallic pigments.

Whether such a coating can be given in the many small parts of the ship so difficult of access, of course remains questionable, but there is in my mind, no doubt but that a complete isolation of all steel and iron parts of a vessel would reduce the setting up of electricity or galvanism to a minimum, and would thus almost remove an important cause of the rusting of ships and other iron or steel bodies, which now goes on to such an extent, even when they appear well protected by paint.

For what other purposes steatite may be useful in connection with shipping need not be discussed in this paper, but I hope at some future time to bring forward another subject, treating of this mineral.

I will only add that steatite or soapstone as a pigment for anti-corrosive paint well deserves the careful attention of the members of this institute.

The Petroleum Trade of Dublin.

Our Dublin correspondent writes:—Trade at the moment here is at a standstill, the new season not having commenced. So far as this city is concerned, American petroleum, ("Royal Daylight" brand) still holds its own well; but for some time past Russian petroleum has gone a long way to displace Scotch paraffine oil among city consumers. For the coming season there seems to be room for other brands of American petroleum; and if any of these are well up in point of color and burning qualities, and prove themselves anything like what the standard oil companies make, traders here will be disposed to give them a fair trial. Stocks in Dublin are at present low, but they are at the same time sufficient to carry on with till the opening of another season (September). Scotch oil, which was held back for some time, is now beginning to be offered, but the trade are more or less reluctant to take to it unless at reduced figures. Up to the past season it had been almost all American petroleum that was consumed in Ireland, except in the far west; but Russian petroleum has been making headway and taking the place of American to a considerable extent. Oils are still sent extensively from Dublin to the provinces by canal (Royal and Grand) in preference to the rail to all towns where the canals touch. The better classes in Dublin use American petroleum, and the poorer Scotch paraffine and Russian petroleum. The largest importer here, has been bringing in regular cargoes from various oil producing countries for some time past. During the past season he imported 27,000 barrels from the different countries, all of which have been long since used up. He is also the largest exporter of empty barrels in Ireland.—*Oil Trade Review.*

Active Constituent of Insect Powder.

Many different statements have been made as to the active constituents of Persian and Dalmatian insect powder, several of which, however, agree in representing it as volatile; in fact, it is frequently held that an insect powder is only active whilst it retains its odor. Some experiments reported by Dr. Hirschsohn, in the *Pharm. Zeit. fur Russ.*, appear however, to have given results contrary to this assumption. A sample that had been kept five years in thin paper and which had lost its odor completely proved to be as fatal to moths as originally. Three samples of active powder were heated to 120° during eight hours, at the end of which time they had lost all odor, but they retained their insecticidal properties. To test the statement that the activity depends upon the presence of free acid, samples were made strongly alkaline with alcoholic potash and with alcoholic ammonia and dried, after which they manifested the same activity as previously. Alcohol, ether, chloroform, benzol and petroleum ether extracts of the powder were all acid in reaction, and left the residual material quite inactive; the carbon bisulphide extract was intensely yellow, and neutral to litmus, but also left the residue inactive. In water, on the other hand, the active principle was insoluble. As showing that the active principle had been taken up by these solvents, it was found that a powder of chamomile flowers treated with an ethereal extract of insect powder acquired insecticidal properties. A solution obtained by shaking a petroleum ether extract with 70 per cent. alcohol left on evaporation a resinous, oily mass that affected the mucous membrane of the mouth like extract of pyrethrum, but pyrethrum root was ascertained to exercise no lethal influence on moths.

The Java Cinchona and Coca Industries.

At the annual meeting of shareholders of the West Java Cinchona Cultivation Company, which took place in Amsterdam last week says the *Chemist and Druggist*, the directors stated that the net profit for the year 1889 amounted to 24,092f., admitting of a dividend of 2·4 per cent. The company's four plantations now contain four million cinchona trees, the number having been increased by 225,000 during the year under notice. The low prices obtained for bark during 1889 induced the directors to give instructions to their managers in Java to restrict the harvesting of bark as much as possible, and commence harvesting later in the season as usual, and a large part of the crop harvested in 1889 actually remains unsold, and over 100 tons are kept ready for the market as soon as the price improves. The harvest for 1890 is estimated at 150 tons and that for 1891 at least 220 tons. The report referring to the company's coca-plantations is favorable. There are now 300,000 coca-plants in cultivation at Tjiseureuh and 9,000 at Bajabang.

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Are superior to any **Varnishes** or **Wood Finishes** in the market for the following reasons, viz. They possess **more body, higher lustre, greater resisting properties to atmospheric influences, action of water and alkali, are more elastic, will not scratch or mar white,** and **are more durable.**

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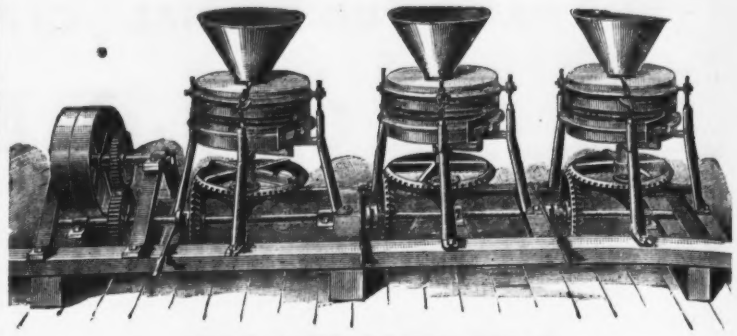

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Improved Paint Mills on Frame with Burrs or Esopus Stones for Paints and Colors in Oil.

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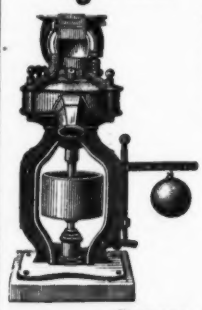

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YOU SHOULD USE KALON OIL.

It is the BEST substitute for, or oil for use with Linseed ever produced.
Adopted by many of the Best Houses in the country.

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STAINLESS
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Finer than they can be bolted.

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Government Waterproof Paints,

QUALITIES WHICH THEY POSSESS, VIZ:

1st. Absolute Proof Against Ammonia.
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3d. Will not CracK or Peel.
4th. Unequalled Covering Capacity.

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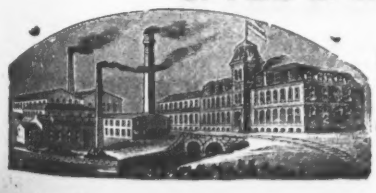
Or Paris Green Substitute.



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MANUFACTURERS OF
A Superior Grade of Red Oxide of Iron Paint.
Over 15,000 Tons Sold since 1880.

Best in the Market for Tin, Iron or Shingle Roofs,
Railroad Cars, Iron Bridges,
Mortar Coloring, Stove Putty,
Barns, Fences,

Outbuildings or any place where protection from the weather is desired.

Prices, Freight Rates and Samples Sent on Application.

ESTABLISHED 1867.

NEW YORK ENAMEL PAINT CO.

MANUFACTURERS OF
MIXED PAINT,
WHITE LEAD,
PARIS GREEN.

240 Pearl Street, NEW YORK.

Protest Against the Lard Bill.

A memorial has been prepared for the signatures of the employes of cottonseed oil mills, of which the following is a copy from the *Manufacturers' Record:*

To the Honorable the Senate and House of Representatives of the United States:

The voice of laboring men in Southern manufactories has seldom been raised loud enough to be heard outside of local boundaries. Especially is this true in the cotton oil industry, which, springing as it did from nothing twenty-five years ago, and at once utilizing what was before only a waste product, has up to the present time been productive of wealth to those engaged in it and to the communities surrounding their mills.

The manufacturers have dealt generously with us their employes, and we have had no fault to find with our wages or the conditions surrounding our work. We have not been engaged in any agitation attracting national notice or requiring the investigation of the government, or the enactment of State laws. Quietly and unobtrusively we have done our part in adding to the wealth of the country, until to-day we number a small army and lend our aid to the machinery of 150 mills and furnish labor for a capital of $50,000,000, and where not one cotton seed was used before, we make a thousand million pounds of cotton-seed annually into articles of commerce that furnish food to man and fertility to his lands. It may be the result of this inoffensiveness, overlooking our numbers and the great importance of the industry we are employed in, that a piece of monstrous injustice directly affecting our daily lives and our happiness has been concocted, and men have sought to insert this monstrosity in legislation. In the very halls of Congress men, blinded by their own selfish interests and reckless of the rights of others, are proposing not merely to add uselessly to the cost of our food, but to take the very food from our mouths, and even the clothes from our backs, by depriving us of employment and ruining an industry yet in its infancy.

It is time that we should be no longer quiet, and we now raise our voices with one accord throughout the length and breadth of the cotton growing States, to protest against this monstrous undertaking and plead with Congress not to do us this wrong.

The taxation of all lard compounded of hogs' fat and cotton oil means a direct and immediate increase in the price of this article of food. It means rendering the manufacture of the compound article unprofitable. It means a reduction in the outlet and consumption of cotton oil. It means the crushing of an infant industry in direct violation of the policy of this government. It means a reduction below the price of common soap grease of one of the purest and most wholesome vegetable oils the human race has been blessed with. It means bankrupt oil mills and thousands of men thrown out of employment. It means the return of cottonseed to its old position of a waste product. It means want and penury for planters and laborers alike. It means all this and more, simply that the hog raising farmers in the West may grow as fat as the hogs they raise at the expense of the cotton growing farmers in the South.

We protest against this bill as contrary to right, justice and the spirit of our Constitution. If this Constitution means anything, it means peace, prosperity and happiness for the citizen of the South as well as the citizen of the West. It expressly provides that those in one section of our country shall not levy tax for their own exclusive benefit upon the commerce and production in another.

We denounce this bill as an underhanded attempt to violate the spirit of the Constitution of the United States.

That Congress may rebuke this unfraternal greed and rapacity and deliver us from such barbarous legislation, the very fear of which has already done vast injury to the industry in which we are employed, is the earnest prayer of the undersigned.

European Stocks of Lard.

Cable advices to N. K. Fairbank & Co., Chicago, give the following estimate of the stocks of lard held in Europe and afloat on May 1, to which are added estimates of former years at same date:

	May 1, 1890.	April 1, 1890.	May 1, 1889.
Liverpool	38,000	30,000	27,000
Other ports in the U. K.	3,500	3,500	2,500
Hamburg	30,000	30,000	7,500
Bremen	500	500	1,000
Berlin	5,000	5,000	2,000
Baltic ports	12,000	12,000	6,000
Amsterdam, Rotterdam and Mannheim	1,500	1,250	1,000
Antwerp	7,000	6,000	6,000
French ports	10,500	9,000	14,000
Italian and Spanish Pts.	1,500	1,800	1,700
Total stocks, tierces	109,500	99,050	68,700
Afloat	33,000	31,000	16,000
Total in Europe and afloat	142,500	130,050	84,700

Total stocks for May 1 for three years previous to 1889 were as follows:

	1888.	1887.	1886.
In Europe	46,800	68,000	61,900
Afloat	19,500	21,000	41,000
Total, tierces	66,300	89,000	102,900

J. N. KNOWLES, Manager. EDWIN L. GRIFFITH, Secretary.

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MANUFACTURERS OF

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Spermaceti, Sperm Candles,

WHALE AND FISH PRESSINGS,

SPERM, WHALE AND FISH OIL SOAPS

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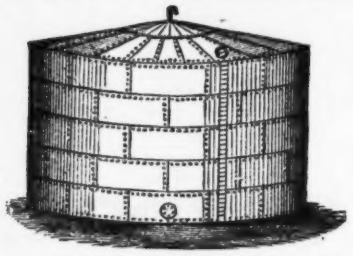
C. L. GRIFFITH & CO., 82 Front St., New York, Eastern Agents

Wm. Graver Tank Works,



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George Delano's Sons,

REFINERS OF

SPERM, SEA-ELEPHANT, WHALE AND MENHADEN OILS.

Refined Spermaceti, Sperm and Paraffine Candles

WHALE AND FISH PRESSINGS,

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Factory, New Bedford, Mass. 140 FRONT STREET, N. Y.

Josiah Macy's Sons,

GENERAL COMMISSION MERCHANTS,

191 FRONT STREET, NEW YORK.

Manufacturers of the Celebrated Brand

"Macy's Prime" Lard Oil.

SPERM, LARD, WHALE, COTTONSEED, ELAIN AND RED OIL, "CLEMENTS" CORN STARCH, IN BOXES AND BARRELS, for Export and Manufacturers use. AGENTS FOR L. Z. O. OXIDE OF ZINC. WESTERN AND SOUTHERN PRODUCE SOLD ON COMMISSION.

SMITH & NICHOLS

IMPORTERS.

WHITE AND YELLOW CERESIN,

JAPAN WAX,

Carnauba Wax, Etc., Etc.

FIRST HANDS

Crude and Refined Paraffine Wax of all Grades.

143 Front St., NEW YORK.

MICA AXLE GREASE.

THE CINCINNATI TRANSFER CO.,

Cincinnati, Ohio.

Mica Axle Grease is very satisfactory in every respect. Quite superior to any axle grease we have ever used before.

W. J. Winterbottom, Supt.

We endorse the above.

Griffith & Hill, Lumber Dealers.

Jas. Griffith & Sons, Planing Mill.

Springfield, Vt.

I have a large sale of Mica Axle Grease. It wears three times as long as any I ever used. Minor W. Newton.

Eldorado, Wis.

We have sold Mica Axle Grease for five years. It is the best Grease manufactured. C. H. & Buell Anderson.

Detroit, Mich.

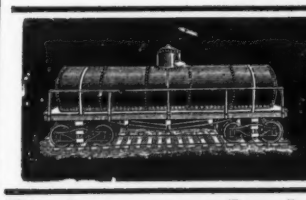
I have used Mica Axle Grease for about eight years with the very best satisfaction. It doesn't run off the axle in hot weather; and it doesn't chill and harden in cold weather. I have used almost all other makes of axle grease and consider the Mica worth more than twice as much as any other for my use.

J. C. Carpenter, dealer in coal and wood.

Manufactured by the

STANDARD OIL COMPANY.

Cleveland, Ohio.



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HIRAM E. LUTZ, Proprietor.

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Cold Pressed Paraffine Oils,
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Royal Paraffine Candles,
Paragon Axle Grease.
"Paragon Spindle" Oil,
Oils for General Machinery,
"Curriers Finishing" Oil.

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BRANCH OFFICE: Clark & 16th Streets, CHICAGO.

PARAGON AXLE GREASE.

OIL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 45.

Vegetable Oils.

TUESDAY EVENING, May 20, 1890.

There is an absence of new features to the trading in vegetable oils. Previous values are still quoted, except for olive oil, which is the only article on the list showing weakness. The feeling is quiet in all departments.

The linseed oil market seems to be waiting on the result of the tariff discussion before Congress. It is not probable that any change in quotations will be made until the final disposition of that question. The position is strong, and circumstances justify an advance, it is said; but the uncertainty as to how the tariff cat will jump prevents action from being taken as to prices, for the reason probably that a higher range might encourage importation of oil. The market, therefore, remains stationery at 62 and 64c., for raw domestic or Calcutta seed oil.

The cotton oil industry is experiencing a quiet feeling everywhere, as the liberal transactions recently reported have apparently satisfied buyers for the moment. In this market there seems to be an effort to advance values, and surface developments would indicate some speculative interest. It looks as if considerable oil is controlled by second hands, and that it will be held for higher prices. Holders of crude oil are apparently far off from realizing their expectations in the neighborhood of 35c, as the best bid is 33c, and the highest figure paid has been 33½c for small lots. Still, there is a determination to hold, and buyers may be forced to yield if they want the stock, which is principally controlled by two parties. Attention during the week has been directed mainly to refined oils, and all sorts of figures have been named, because of reported sales in the primary markets at an advance. Prime summer yellow is said to have realized 38c, but this statement is generally disputed, and 37½c is considered nearer the actual value. Bids at the latter figure would be accepted, but dealers have not been called upon within the last two days to release supplies at the price named. We hear of sales at 37¼@37½c for prime oil in barrels, and of one lot summer yellow realizing 42½c in cases for export. The cry is, "On to the 40c mark for summer yellow," and if buyers give the proper assistance that point may be reached in the near future. The sales on domestic account have been principally in lots of 50 bbls, and in this way considerable oil has changed hands. Lower grades are in moderate demand at 1@2c under the value of prime. Summer white oil is held at 38½@39c, and it is claimed that the only outlet is for Western consumption. Winter oils are held at 48@49c for prime quality, and it is said that wholesale druggists have been large buyers, both for export and the local trade. The foreign movement of cotton oil has been comparatively small from New York, amounting to only 23,336 gallons during the week, but New Orleans comes to the front with 12,720 bbls, principally for the Netherlands.

Exports of cottonseed oil from New York by countries:

To	For week ending May 19 1890. Gls.	Since Sept. 1, 1889. Gls.	Same time last year Gls.
Africa	....	10,146	....
Arg. Republic	....	1,524	4,101
Australia	....	11,110	2,302
Austria	....	88,494	...
Belgium	....	71,262	60,552
Brazil	....	15,083	5,425
Br West Indies	1,476	102,138	40,853
Br Guiana	2,414	12,066	900
Canary Islands	....	....	....
Central America	....	404	1,427
Chili	....	350	....
China	....	10	99
Cuba	....	577	146
Dan West Indies	....	6,513	5,448
Denmark	....	500	150
Dutch West Indies	....	454	54
Ecuador	..	80	....
Egypt	....	....	....
England	1,500	717,596	153,233
France	....	1,661,041	26,283
French West Indies	1,758	94,068	100
Germany	500	208,455	167,149
Gibraltar	....	115,101	....
Hayti	....	8,324	363
Ireland	....	....	....
Italy	....	675,751	....
Japan	....	....	....
Mexico	....	11,502	35,558
Netherlands	5,000	1,738,274	2,012,998
New Zealand	48	2,327	542
North America	....	9,667	5,709
Norway & Sweden	....	8,000	17,664
Peru	....	....	740
Porto Rico	....	....	48
San Domingo	....	1,094	2,058
Scotland	10,460	131,453	26,116
Spain	....	9,500	....
Turkey	....	....	....
U S. Columbia	....	1,004	1,566
Uruguay	....	20	....
Venezuela	....	1,429	2,249
Total	23,336	5,093,460	2,755,575

Exports of cottonseed oil from New Orleans by countries:

To	For week ending May 15, 1890. Bbls.	Since Sept. 1, 1889. Bbls.	Same time last year. Bbls.
Austria	..	22,772	....
Belgium	..	2,868	...
England	1,000	2,500	1,800
France	..	10,554	2,325
Germany	400	10,950	300
Gibraltar	..	2,800	...
Italy	3,170	22,651	5
Mexico	..	..	10
Netherlands	7,150	26,650	....
Portugal	..	..	....
Spain	..	..	....
Total	12,720	93,045	4,450

Exports of soap stock from New Orleans by countries:

To	For week ending May 15, 1890. Bbls.	Since Sept. 1, 1889. Bbls.	Same time last year. Bbls.
Belgium	..	....	100
Cuba	..	....	....
England	..	6,696	5,845
Germany	..	....	62
Italy	..	....	..
Mexico	..	40	50
Spain	..	....	....
Total	..	6,736	7,090

Olive oil is still favoring buyers, the market having declined to 82@83c. for prime Italian and Malaga grades respectively. About 200 bbls. recently imported, are said to be in bond, and the total stock on spot is placed at 500 bbls. Importations are generally light during the heated term, and it is said that the stock on hand will have to supply the trade for some time. The movement into consumption is light. Cheaper oils are offering freely and seem to have more demand than the relatively high priced grades.

Cocoanut oils are on a firm basis, with 5⅞@6c quoted for supplies of Ceylon oil on spot, and the latter figure for future delivery. Stock in store has a moderate movement, and 5 95c has been paid for 50 tons on vessel named. The Leading Wind has come to hand with 150 tons Ceylon and 150 tons Cochin oil, all of which has been taken out of the market for consumption. Cochin oil on spot is held at 6¼c., with little doing.

Animal and Fish Oils.

No material change is to be reported under this head, as prices have remained unchanged and on a firm footing, while business in refined products continues quiet. The movement is not satisfactory, as a rule, for this season of the year. Greases have a steadier look. Lard oil has not been altered in price, cold pressed prime city being quoted as usual at 53c. Some facts in regard to the export movement in lard and tallow will be found on our editorial pages.

The crude sperm oil market has been dull the past week with but a single sale of 50 bbls inferior for manufacture on private terms. There seems to be no disposition on the part of manufacturers to buy largely at this early part of the season and the exporters cannot pay so much as holders ask, hence no business has resulted.

Crude whale oil is quiet with a single sale of 200 bbls Southern just arrived in New York, for home use on private terms.

Whalebone continues to be quoted at $4 50 per lb for the best and $3 25 for South Sea, with sales of 4,500 lbs. for the week at the figures named. The total stock is distributed as follows:

New Bedford—Arctic,	9,500		
" " Jap & Ochotsk,	none	}	15,100
" " Northwest,	none		
" " South Sea,	5,600		
Elsewhere—Arctic,	26,600		
" Jap & Ochotsk,	none	}	30,600
" Northwest,	4,000		
Total,			45,700

Menhaden oil is gaining in strength, as the cook of old oil is concentrated in two hands, and held at an advance to 25c., with the possible acceptance of less, but there is a disposition on the part of buyers to hold off for new oil. Manufacturers prefer the old oil on account of quality, but exporters are not disposed to pay the difference in price and they are expected to be in the market for the new product which cannot be offered in any large quantity until the latter part of next month. Until then small lots may appear in the market and be absorbed for domestic use. We hear of no fresh business.

Oil Cake.

There is no business to report in oil cake, as the New York market seems to be outside of the "charmed circle," as an operator expressed himself to-day. Dullness is the chief characteristic, because there is no cake to handle. Prices are nominal at $22.50, which represents actual value on spot, taking freights and foreign markets into consideration.

Wax, Lard, Tallow, Etc.

The true position of the paraffine wax market is outlined in our editorial pages, showing that supplies of crude are scarce and wanted. Refined wax is on a firm basis and stocks for home use are not allowed to become exhausted. Candles are expected to be advanced shortly in consequence of the probable changes in wax.

Spermaceti is unchanged in any particular, the range of 40@42c being still quoted by producers. The movement is comparatively light.

Lard and tallow are reviewed in our editorial pages, showing that the export movement is very active. The market on lard is slow and easier, with Western steam quoted at 6 45c, city steam at 5 85 and refined at 6 26@7 40c.

Lard stearine is moving slowly at 7⅛@8¼c, according to package, and oleo stearine is freely offering at 5⅞c, with little interest manifested.

The tallow market is stronger at 4⅛c, and melters are holding off for better prices. The export demand continues good.

Naval Stores.

Spirits Turpentine—The market during the week has been a declining one, due in all probability to the fact that receipts have been increasing, a very fair stock being reported in the yard to-day, while the demand has not been sufficient to take up the surplus. In view of a weaker feeling on the part of holders which was widened toward the latter end of the week, buyers have held aloof, preferring to wait for lower prices. At the close to-day, the majority of the dealers were inclined to call the market 39c, but others named one-half cent lower, and rather an easy tone was noticed, while indications certainly did not point toward higher prices. The Liverpool market was cabled steady, with an improved demand noted and value ruling at 30s 6d.

Rosin—There have been no radical changes in the position of the several kinds beyond the fact that the medium grades have been very scarce, G, H, I and K being exceedingly difficult to obtain in any quantity whatever. The demand for these qualities has been good, but with the exception of H prices show no

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Animal, Vegetable and Mineral OILS.

Valve, Cylinder, Signal, Machinery, Engine and Lubricating Oils.
Sperm, Lard, Tallow, Neatsfoot, Whale, Elephant, Seal, Cod and Fish Oils.

Pure Spanish and Italian Olive Oils.

All grades of Pure Olive Oil Soap for Silk and Worsted Mills, either in bulk, bars or powdered.
Saponified Red and Elaine Oils.
Mineral Wool Oils and Wool Stocks.
Castor, Rape, Mustard and Cottonseed Oils, Paraffine Oils, Paraffine Wax and Beeswax.
All kinds of Lubricating and Axle Grease Tallow, Lard and Cottonseed Grease for Soap Makers.

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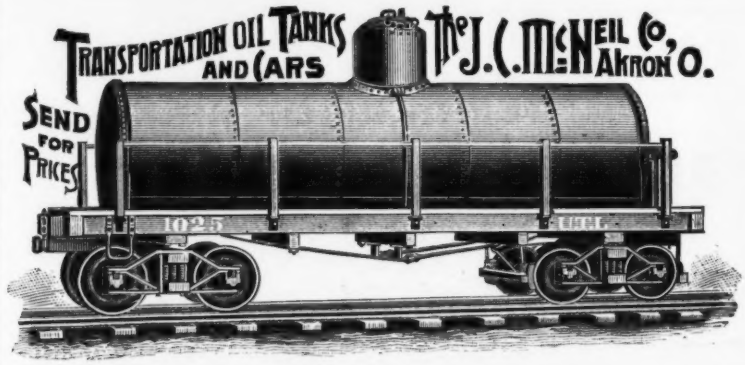

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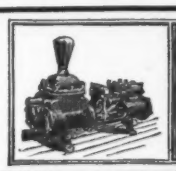

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BUFFALO, N.Y. MANUFACTURERS OF

STEAM PUMPS

FOR ALL DUTIES.

INGALLS & COMPANY,

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Illuminating and Lubricating Oils,

AGENTS FOR

Wilson & Evenden's Oil Tanks and Shipping Cans.

OFFICE, No. 46 JEFFERSON AVENUE, - - DETROIT MICH.

We Will Buy Good Second-Hand Carbon Oil and Naphtha Barrels

D. A. STUART & CO. CHICAGO.

STRICTLY PURE.

NEATSFOOT, TALLOW AND LARD OILS.

SOLIDIFIED MINERAL OIL GREASE.

JOBBERS ORDERS SOLICITED.

OILS, Etc.

JAVA OIL, RAW--A strictly pure vegetable oil, for compounding with Linseed. Odorless and Bloomless.

JAVA OIL, BOILED--The leading cheap Paint Oil. The third coat dries evenly with a good gloss in 10 to 15 hours.

JAPANESE DRYER--A combination substitute for Linseed Oil, where cheapness and rapid drying is necessary. It gives a dry, glossy surface in 7 hours. Works admirably with Metallic Paints.

We are now booking orders for shipment, March 15th and April 1st.
Get ready for the Spring Trade.

S. P. SHOTTER CO., SAVANNAH, GA.

Branches: NEW YORK, 159 Front Street. CHICAGO, 5 Wabash Avenue NEW ORLEANS, 55 Magazine Street.

MAVERICK OIL CO.,

REFINERS AND SHIPPERS OF

Maverick Standard Burning Oils, Naphthas AND Gas Oil

Of all Grades in Bulk, Barrels and Cases.

REFINERY: Chelsea Street, EAST BOSTON.
OFFICE: 61 Broad Street, BOSTON.
WAREHOUSES: 33 & 35 Commercial St., PORTLAND, ME. Front, Cor. May Street, BANGOR, ME.

Proprietors of the Well-Known Brand of

CENTENNIAL SAFETY OIL.

This Oil, by its High Test, is safer in use than any other Burning Oils, and gives the most brilliant light. It does not crust the wick, and is free from disagreeable odor and smoke in burning.

Oils Delivered by the car load in bulk or in barrels at any point in New England.

CREW LEVICK CO.,

REFINERS OF HIGH FLASH AND EXTRA VISCOSITY

Dark and Filtered Cylinder Oils and Machinery Oils.

Rope, Wool, Filtered Neutral Spindle Oils & Paraffine Wax & Scale.

Refinery: *South Chester, Pa.* Offices: 113 ARCH STREET, PHILADELPHIA. 194 FRONT ST., NEW YORK.

J. H. DUGGAN,
Secretary and Treasurer Cottonseed Crushers Association,
BROKER IN
COTTONSEED PRODUCTS
AND
OIL MILL SUPPLIES,
180 Common Street,
NEW ORLEANS.

Cottonseed Oil, Cake, & Meal!

Valley Oil Mills,
Manufacturers and Refiners of Cottonseed Products.
MEMPHIS, TENN.
N. B.—Samples and Prices on Application

1828 **JAS. CORNER & SONS,** 1890
BALTIMORE, MD.
Spirits Turpentine and Rosin.
LINSEED OIL.

Sugden Press Bagging Co.
(Successors to THOMAS SUGDEN.)
MANUFACTURERS OF
OIL PRESS CLOTH
FROM WOOL AND CAMEL HAIR.
JAMES BROWN, Agent, LOWELL, MASS

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31 and 33 W. Pearl Street, CINCINNATI, O.

DEALERS IN ALL GRADES OF

FINE LUBRICATING AND MACHINERY **OILS** Railroad, Engine, Car and Coach Oils a Specialty

F. W. BRODE & CO.,
MEMPHIS, TENN.
COTTONSEED PRODUCTS.
CRUDE AND REFINED OILS,
Miners' Oils, Winter Yellow, Summer Yellow, Summer White, Cooking Oils,
Meal and Cake, Soap Stocks.
Correspondence Solicited. Samples sent on application,

DAVIS OIL CO.,
455 Produce Exchange, NEW YORK.
MANUFACTURERS OF
Lard, Neatsfoot and Tallow Oils,
ALSO MANUFACTURERS OF REFINED ANIMA

change. Low grades have been fairly steady, and in fair though not excessive supply, while a moderate demand has prevailed for these grades, and prices are unchanged Pales have been rather easy, the demand being light and stocks abundant. Prices of the latter grades, in consequence, show a reduction. At the close to-day a quiet feeling prevailed, while the following were the asking figures: Strained, $1 40; good strained, $1 45; E, 1 50 @$1 55; F, $1 70; G, $1 80@1 90; H, $2 05@2 10; I, $2 30@2 40; K, $2 50@2 55; M, $2 65; N, $2 80; W G, $2 90; W, W, $3 00.

The Liverpool market was reported firm by cable to-day, with the demand good and prices unchanged at 4s.

STOCK ON HAND AT

	Spirits.	Rosin.	Tar.
New York, May 20. Bbls.	1,419	10,778	2,746
Savannah, May 16.....	9,588	43,601	....
Wilmington, May 16.....	1,284	5,807	8,872
Charleston, May 16.....	1,610	7,497	....

The following has been the course of the Liverpool market for the week:

	Spirits.	Rosin.
	s. d.	s. d.
May 13	30 6	4 0
" 15	30 6	4 0
" 16	30 3	4 0
" 17	30	4 0
" 19	30 3	4 0
" 20	30 6	4 0

The following is from the Savannah *News* of May 18:

NAVAL STORES STATEMENT.

	Spirits.	Rosins
Stock on hand April 1	3,963	39,511
Received to-day	1,055	2,550
Received previously	29,501	86,729
Total	34,519	128,790
Exported to-day	719	5,220
Exported previously	23,881	82,639
Total	24,600	88,559
Stock on hand and on shipboard to-day	9,919	40,231
Receipts same day last year	894	1,104

Messrs. Watt & Son, London, under date of May 3, say:

	1890.	1889.	1888.	1887.
Stock May 3	10,783	8,595	11,278	15,368
Delivered this week	1,325	1,024	1,493	1,577
Since Jan. 1	22,184	20,325	22,052	25,048
Price May 3	28s 6d	33s 9d	28s 3 1	27s 6d
Sept.-Dec	27s 6d	28s 0d	26s 3d	25s 9d

Mr. Max Lehman, Treasurer of the Texas Standard Oil Co., owned by Heideheimer Bros. of Galveston, was in the city yesterday on his wao to Hamburg, Germany, to visit relatives.

Cotton Seed Meal and Hulls as Food for Live Stock.

ALEXANDER P. HULL.

The history of cotton seed for the past twenty years has been one unceasing wonder. No other product of our soil has ever developed into such a many-sided material before, and every few months a new use for some product of cotton seed is discovered. Perhaps petroleum is the only substance which has ever paralleled cotton seed in the history of its manufacture into useful articles of commerce. Twenty-five years ago cotton seed, except as a fertilizer for cotton-growing lands, was considered almost totally worthless, and the annual product, about 3,500,000 tons, was allowed to a great extent to go to absolute waste, generally being left to rot around the gin houses. Then oil began to be manufactured from them, and to-day more than 1,000,000 tons is used by the oil mills, and the Southern farmers receive about $13,000,000 for the seed they dispose of to the mills. Now, this oil is one of the every-day articles of commerce, entering into a thousand products which need in their composition a pure vegetable fat. Next, a new wonder came to pass. It was discovered that after thirty-five gallons of oil had been extracted from a ton of seed, the remainder was a better fertilizer than the cotton seed before. The hulls were used as fuel and were burned under the oil mill boiler, and it was found that the ashes of the hulls were of the highest value as potash, and the refuse of the whole could be manufactured into the purest soap stock to carry to the toilet perfumes of the best manufacturers.

So much in preface for cotton seed in general. One would naturally suppose that its uses had all been discovered, and investigation has reached a final limit. But no, a new use was discovered that may turn the South into as fine a cattle country as the far famed prairies of the West. This last discovery was that the hard brown hulls mixed with cotton seed meal made the finest possible feed for cattle, and at the same time, the cheapest. For the past year or two this mixture of meal and hulls has been used to a considerable extent in the immediate vicinity of the oil mills, but our people seem to have paid very little attention to it. Numerous experiments have been made, of which I quote a few.

Professor W. E. Stone, of the Tennessee Experiment Station, writes as follows:

Our investigations seem to justify the following conclusions:

1. The practice of feeding cotton seed hulls and meal as an exclusive diet is well established and increasing in the vicinity of the centers of the cotton seed oil industry. All the information available indicates that the practice is economical and profitable.

2. It seems in no way harmful to the health of the animal nor to the healthfulness of the products (beef and milk) resulting.

3. The diet seems adapted both to the production of beef and mutton as well as milk.

4. The average ration should consist of 52-35 pounds of hulls and 5-8 pounds of meal daily.

5. The hulls are a cheap and effective substitute for hay.

6. The manure produced by this system of feeding is an important factor in considering its profitableness.

Mr. A. H. Rice, of Tennessee, gives the following result of feeding cattle on cotton seed meal and hulls:

As requested, I give you below the results I obtained in feeding three (3) year old steers, on this feed in comparison with other food under similar circumstances for sixty days.

Two Jersey steers, twin calves, precisely alike, except that one was thirty pounds heavier than his mate; hence the heavier showing more thrift. I will number him one (1) and the other twin two (2). These two steers were weighed on the evening of January 26, 1889, without food or water, thus making a fair test:

No. 1 weighed..... 759 pounds.
No. 2 weighed..... 720 pounds.
No. 3 weighed..... 740 pounds.

No. one (1) was fed on cotton seed and corn mixed, and sometimes corn meal instead of corn—all he would eat. No. two (2) was fed on cotton seed hulls and meal—all he would eat. No. three (3) was fed on shelled corn—all he would eat. All were watered alike, and had what wheat straw they wanted.

On March 27, 1889, I weighed them without food or water, with the following result:

No. 1 weighed 780 pounds a gain of 30 pounds
No. 2 weighed 825 pounds..a gain of 108 pounds
No. 3 weighed 715 pounds...a loss of 25 pounds

I am sure No. 2 was the inferior steer, and showed less thrift. I did not keep a correct account of the cost of the above experiment, but am positive the feed of No. 2 did not cost any more than that of Nos. 1 and 3.

My only regret is that I did not know the value of this food sooner. I am so well satisfied with this experiment that I have put all my fattening cattle on cotton seed hulls and meal, and another year I shall feed extensively, and cotton seed hulls and meal shall be my feed.

Mr. W. M. Towers, of Rome, Georgia, gives the following result of his experiments in feeding cattle on meal and hulls:

We bought, April 14, 1888, a very handsome ox, but thin and gaunt, who had been ridden by a boy about fifteen miles. Weighed April 13, 1888, 1,325 pounds; April 17, 1,360 pounds; April 19, 1,460 pounds; April 20, 1,465 pounds; April 27, 1,450 pounds; April 30, 1,510 pounds; May 1, 1,500 pounds; May 5, 1,560 pounds; May 7, 1,590 pounds; May 10, 1,595 pounds; May 15, 1,615 pounds; May 17, 1,625 pounds; May 24, 1,650 pounds.

The writer has the results of numerous other experiments before him, all proving that cotton seed meal and hulls make a magnificent stock food. It is needless to give more, as the above suffice to show the value of them to our farming classes. Cotton seed meal and hulls mixed in the proportions given above cost about $1.50 per month for feed per head for cattle, and therefore is about the cheapest feed which can be procured. The result of this discovery will be to render fine pastures unnecessary for raising cattle, and every farmer can have the fattest beef whether he has pastures or not. The benefit of this will be great in many sections of the South, and it is greatly to be hoped that our farmers will soon be supplying our city markets with beef instead of our having to import it from the far West. I was informed by a gentleman living in Fulton county, Georgia, a few days ago, that for the past two years he had been buying all the poor cattle he could find in the county, feeding them for a couple of months on cotton seed hulls and meal, and then selling them for the fattest beef at a profit of from fifty to seventy-five per cent. over and above the cost of the cost of the cattle and the feed together. It would seem that nature has given the South every advantage possible for supplying her people with every necessity of life, and they should not be slow to utilize this great discovery, which will save the necessity of owning "pastures on a thousand hills" for grazing their flocks and herds.—*Dixie.*

The English Lard Trade.

The trade in this article of commerce centers more largely in Liverpool than elsewhere in the United Kingdom, the chief refiners carrying on business in this city and in Manchester. The consumption of American lard in this country is about 1,000 tons per week and of this quantity fully two-thirds comes to Liverpool.

Sixty years ago the lard trade was almost unknown, and its growth to anything like magnitude was delayed until within the last quarter of a century. In the year 1860 the total quantity imported into Liverpool was 5,162 tons, and in 1870, 3,736 tons; but in 1880 the total had sprung up to no less than 33,820 tons. It has since fluctuated from 23,982 tons in 1883 to 36,218 tons last year, this being the largest amount imported into Liverpool during the course of a single year. And this quantity, too, was brought here without leaving the American export stores bare, or anything like it.

As already indicated, it was not until after the first quarter of the present century that lard was used to any great extent. Small quantities had previously been used for culinary purposes, and as a base of various ointments in medical use. But the enormous hog production of America called for the discovery of a mode of utilizing the fat of the animal, and here again necessity was the mother of invention. In the first instance, the fat was pressed at a very low temperature, and the stearine and oleine separated, the former being used for candle making, and the latter—as lard oil—for the lubrication of machinery. But it was not very long before the lard-refining industry was created, and then the trade gradually increased until it gave the tremendous leap to which I have referred and attained its present magnitude.—Liverpool *Courier.*

The Manual of Lubrication,

Or how to choose and how to use lubricants for every description of machinery, with methods of determining the purity and other properties of oils, &c., &c., by Louis Simpson. England, price $2.00. OIL, PAINT AND DRUG PUBLISHING Co., 72 William St., New York.

This work is written by a Practical Mill Superintendent for the use and guidance of all mill men.

EDWIN SCHOFIELD,
SUCCESSOR TO
R. H. NUTT'S SON & CO.,
OIL PRESS MAT
AND
BAGGING MANUFACTURERS.
351 Adams St., Brooklyn, N. Y.

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Following is a list of officers and directors of paint, oil and varnish clubs of the United States:

NATIONAL PAINT, OIL AND VARNISH ASSOCIATION.

President—Charles Richardson, Boston, Mass.
Vice-Presidents—O. L. Whitelaw, St. Louis, Mo Wm. C. Wilson, Philadelphia, Pa.
Secretary—P. P. Senour, Chicago, Ill.
Treasurer—M. D. Eger, New York City.
Directors—W. W. Lawrence, Pittsburgh, Pa.; S. M. Bassett, Cincinnati, O.; F. H. Rogers, Detroit, Mich.

PAINT AND OIL CLUB OF NEW ENGLAND.
(Organized Feb. 23, 1884.)

President—William S. Pratt.
Vice-President—Samuel L. Peck.
Secretary—Albert E. Carr.
Treasurer—Edward W. Nash.
Executive Committee—William S. Cutler, Charles W. Badger, Peter Ripley, Leander W. Fobes, George H. Clark and Charles E. Adams

PAINT, OIL AND VARNISH CLUB OF NEW YORK.
(Organized Feb. 26, 1887.)

President—M. D. Eger.
Vice-President—J. Seaver Page.
Secretary and Treasurer—W. B. Templeton.
Executive Committee—Aquila Rich, Lawson Valentine, W. H. King, E. H. Kohnstamm, N. B. Arnold, Victor S. Allien, and officers.

THE PAINT AND DRUG CLUB OF PITTSBURG.
(Organized May 24, 1887.

President—George A. Kelly.
Vice-President—Gerard C. Smith.
Secretary—W. W. Lawrence.
Treasurer—John W. Fleming.
Executive Committee—Composed of the officers.

PAINT, OIL AND VARNISH CLUB OF CHICAGO,
(Organized May 31, 1887.)

President—George H. Vrooman.
Vice-President—E. H. Haines.
Secretary—D. Van Ness Person.
Treasurer—M. Rosenthal.

Executive Committee—Chas. H. Cutler, J F. Weare, W. H. Andrews and officers.

ST. LOUIS PAINT, OIL AND DRUG CLUB.
(Incorporated June 1, 1887.)

President—W. H. Thornburgh.
Vice-President—C. W. Barstow.
Secretary—Norris B. Gregg.
Treasurer—George S. Mepham.
Executive Committee—O. L. Whitelaw, H. V Kent, H. H. Clark and officers.

THE PHILADELPHIA PAINT CLUB.
(Organized Oct. 21, 1887.)

President—Wm. Waterall.
Vice-President—W. H. Wetherill.
Secretary—Albert Lucas.
Treasurer—S. K. Felton.
Executive Committee—Howard B. French, Chas. H. Howell, Edward F. Beale, F. G. Elliott and C. Leland Harrison.

PAINT, OIL AND VARNISH CLUB OF DETROIT,
(Organized Nov. 12, 1889.)

President—S. E. Pittman.
Vice-President—F. H. Rogers.
Secretary—Thomas Neal.
Treasurer—William Reid.
Executive Committee—W. P. Fuller, William Boydell and William Stridiron.

THE CINCINNATI PAINT CLUB.
(Organized Dec. 21, 1889.)

President—Frederick Renner.
Vice-President—W. H. Bucher.
Secretary—S. M. Bassett.
Treasurer—B. A. Boehmer.
Executive Committee—John B. Swift, W. C Peale and Herman Wolf.

KANSAS CITY PAINT, OIL AND VARNISH CLUB
(Organized March 13, 1890.)

President—George E. Dudley.
Vice-President—George T. Faxon.
Secretary—Thomas Pain.
Treasurer—A. M. Hughes.
Executive Committee—Chas. Campbell, Jno. A. McDonald, O. H. Brown, and officers.

BROOKLYN PAINT DEALERS' ASSOCIATION.
(Organized March 26, 1890.)

President—A. M. Montignani.
Secretary—Samuel M. Wood.
Treasurer—S. B. Kraus.
Executive Committee—Composed of the officers.

PAINT, OIL AND GLASS CLUB OF NEBRASKA.

President—Frank B. Kennard.
Vice-President—F. E. Ritchie.
Secretary—M. J. Waugh.
Treasurer—S. B. Hayden.
Executive Committee—C. F. Weiler, Wm. Cummings, C, J. Daubach and officers.

As soon as received we shall make corrections and include other clubs, and as it is desired to keep a correct standing directory of the above, we ask the various clubs to notify us at once of any changes made.

"Petroleum Distillation

and Modes of Testing Hydro-Carbons, by Allen Norton Leet. An exhaustive treatise concerning old and new processes of separating and refining Mineral Oils; together with directions as to the setting and construction of stills treating houses and all the appurtenances of Oil Refineries; Price, $2.00 OIL, PAINT & DRUG PUBLISHING Co., 72 William Street, New York.

BOSSHARDT & WILSON---LUCENT OIL WORKS.
REFINERS OF
BRADFORD, FRANKLIN and CLARENDON
CYLINDER STOCKS,
Wool Stocks, Bloomless Neutrals, High Viscosity Spindle and Machinery Oils, Cold Test and Summer Black Oils.
LUCENT PETROLATUM, and all other Petroleum Products.
OFFICES { 212 S. Third Street, Philadelphia, Pa.
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REFINERY { Gibon & Point, Schuylkill River,

THESE TWO BRANDS OF

LUBRICATING OIL

Are the Best

AND MOST POPULAR

In the Market.

Have been endorsed by hundreds of the largest consumers and recommended by the leading Engine Builders in the Country.

STANDARD OIL COMPANY,

CLEVELAND, OHIO.

THE

DOMESTIC TRADE DEPARTMENT

OF THE

ATLANTIC REFINING CO.,

Office, 125 Arch St., Philadelphia.

CONTINENTAL AND "WESTMINSTER"

150 FIRE TEST

Water White.

"ATLANTIC"
In convenient cans, each furnished with a nozzle

OILS.

SOLE MANUFACTURERS OF THE CELEBRATED BRANDS

"OPTIMUS" ◈A and ◈O LUBRICATING OILS.

For Car Boxes and Heavy Journals.

GASOLINES all Gravities from 62° to 105°. Orders will receive prompt attention

PETROLEUM MARKET.

TUESDAY EVENING, May 20, 1890.

The most interesting feature of the week has been the rapid advance in the price of certificates notwithstanding the fact that the reports from the producing fields have been decidedly bearish in their tenor and, ordinarily, should have been in effect. What is believed to be an important extension of the hundred f ot district was announced just as the price was advancing on Saturday, but it did not even check the upward movement. This is in strong contrast with the course of the market heretofore, when bearish field news was certain to bring about changes, whatever other conditions might warrant. This proves what we have heretofore asserted, that a buying movement once inaugurated, the price would respond and the figures he brought nearer the actual value of the product as warranted by the natural conditions of supply and demand. The advance has been as rapid as was the memorable decline of six years ago, which proved so disastrous to a number of speculators and crippled many others. There is a marked difference in the attitude of the operators then and now. There were comparatively few caught on the wrong side of the market and those short were only so for a moderate amount. What the outcome of the present movement may be it would be folly to attempt to predict, but there are many who expect the price to reach and possibly pass the dollar mark, and that the price will not soon again be down in the eighties without better cause than brought about the last break. The production has not increased during the past fortnight, while the deliveries have been somewhat larger, and it is possible that there will be a material reduction in stocks this month. With higher prices, however, drilling operations will be still further extended and production thereby probably increased. The situation is interesting, but the future is as uncertain as it has been in the past. Another week may bring changes which are not now deemed possible and the market be governed by influences which will make the position of the speculative operators, either on the bear or the bull side, uncomfortable. Extension of fields, new pools, large wells, are possible. So also are dire failures and a decrease of production. With the production and consumption so near of the same amount as they have been during the past two months an important change either way would exert an influence on the market which cannot be easily provided against. The transactions during the past week show an increase over those of the previous week, the sales footing up 2,182,000 bbls against 651,000 bbls for the preceding week. The clearances of the local exchange amounted to 3,224,000 bbls, against 3,052,000 bbls during the preceding week. The total clearances reported for the other three exchanges amounted to 6,764,000 bbls, against 5,366,000 bbls for the preceding week. The highest price of the week was recorded on to-day, when 96¼c was reached. The lowest point of the week was 86¾c, and was touched on Thursday. The opening price last Wednesday was 86¾c, and the close this evening was at 94⅝c, showing a gain of 7⅞c as the result of the week's trading, while the extreme range of fluctuations for the week was 10c.

Wednesday, May 14.

The opening this morning was strong at 88⅝c, an advance of ¼c over the close of yesterday, and this was also the lowest price of the day, the market advancing steadily from the start. There was no cause for an advance other than the apparent anxiety of the bidders to secure oil which the sellers were prompt to take advantage of. The highest price reached was 87½c, after which the market eased off and the trading became tame. There were several incipient spurts during the day which were taken advantage of by the regular frequenters of the ring, but interest flagged during the afternoon and little of interest transpired. Reports purporting to come from the producing fields were circulated to the effect that important new wells had been brought in but they were not generally credited and they had no effect on the market. The close was dull but strong at 87⅛c, making a gain for the day of ¾c, while the range to quotations was 1⅛c. Someone with a good memory, probably sharpened by experience, recalled the fact that six years ago to-day witnessed the beginning of the memorable slump, during which the price dropped in three days from 91¼ to 65½c. The sales to-day amounted to 216,000 bbls, of which 4,000 bbls were May at 87⅛@87¾c. In the Butler field Griesbach & Bros., on the Casper Fehl farm, struck a rich lead and commenced at 18 bbls per hour. The well is of no particular importance, being located in the midst of a cluster of good wells, in which Smith & Co.'s well, on the same farm, and H. W. Christie's well, on the Ifft farm, form the principal part. Reed & Co.'s No. 2, on the M. Shannon farm, is completed and rated at 60 bbls per day. The Long Oil Company, on the Marshall farm at Big Creek, are having some trouble in getting their No. 1 to pumping, caused by the sand running in. The prospects are favorable for a good well. In the Southwest district, Whitehill & Co.'s well at West View is past all pay streaks in the hundred foot sand and dry. Theott & Co.'s well on the Rouser farm is also dry. The Bear Creek well on the Morgenstein farm, which was making considerable show of oil, has weakened and is now looking like a failure. Galley & Graham's well on the Ray heir's farm, is through the third sand and dry.

The half-hourly quotations were as follows:

A.M.		P.M.	
10:00	86⅜	12:30	87¼
10:30	87	1:00	87¼
11:00	87⅛	1:30	87
11:30	87⅜	2:00	87⅛
12:00	87¼	2:30	87¼
		3:00	87⅛

The clearances were as follows: New York, 268,000; Oil City, 44,000; Pittsburg, 150,000; Bradford, 132,000; total clearances May 14, 594,000 bbls.

Carrying rates were: New York 25c; (renewals, 25c); Oil City, 30@35c; Pittsburg 25@30c; Bradford, 20@25c.

Market May 14, 1889—82⅝@83⅛c.

Thursday, May 15.

There was a further advance scored at the opening this morning of ⅝c., the opening price being 87¾c., and from this the figures were soon moved up to 88c., the highest point reached. There was no concert of action on the part of either the bull or bear faction on the local exchange, and the operators watched the reports from Oil City and Bradford, where it was thought some movement was on foot. As no important result was developed the scalpers made the most of the situation, and during the freer offerings of those who desired to secure the profits in sight brought about a reaction, the price finally dropping to 86⅜c. Although there was some buying to cover the market did not recover, the final price being 86⅝c., making a loss for the day of 1⅛c., while the extent of the variations was 1⅝c. The sales amounted to 248,000 bbls., of which 1,000 bbls. was cash at 87⅜c. In the Butler field the South Penn Oil Company's No. 2, Humphrey heirs' farm, was five feet in a white sand and showing for a good well. Griesbach & Co.'s well has declined some, but it is still making 200 bbls. per day. Sutton, Wick & Co. have completed a good well on the Marshall farm, and are drilling three more wells. A spark from the smoke stack ignited the oil in a tank at the Andrews well on the Witty farm, consuming the tank and oil. In the Southwest district the Eleo Oil Co.'s well, adjoining the O'Brien, was twelve feet in the sand but not far enough to get the pay streak. The Morgenstein well at West View is past all hope of improvement, and is a failure in the hundred-foot. It will be drilled to the third sand. At Murrinsville Snee & Co.'s Mortland farm well was reported doing 1,000 bbls., but later reports are that it filled up five feet at two feet in the top of the sand, but has not flowed.

The half-hourly quotations were as follows

A. M.		P. M.	
10:00	87¾	12:30	87⅞
10:30	88	1:00	87⅞
11:00	87¾	1:30	88
11:30	87⅞	2:00	87⅞
12:00	87⅞	2:30	86⅞
		3:00	86⅝

The clearances were as follows: New York, 548,000; Oil City, 246,000; Pittsburg, 142,000; Bradford, 324,000; total clearances May 15, 1,260,000 bbls.

Carrying rates were: New York, 25c; (renewals 25c); Oil City, 20@25c; Pittsburg, 25@30c; Bradford, 20@25c.

Market May 15, 1889—81¼@82¼c.

Friday, May 16.

A further advance of ⅝c. was scored this morning, the opening price being 87c, and there being a fair amount of buying the price advanced to 87⅝c. While most operators appeared to entertain the belief that a still further advance would follow, there were few who cared to bid above 87c., and consequently the market soon receded to that figure. The day was largely devoted to scalping, and under this class of trading the price varied frequently; but as during the latter part of the day the offerings became freer the market eased off, the price finally dropping to 86⅝c., which was also the closing figure. This made a loss for the day of ⅜c. under a range to quotations of 1c. The sales footed up 184,000 bbls., of which 4,000 bbls. was "to-morrow" at 87⅛c., and 2,000 bbls. cash at 86⅞c. In the Butler field Snee & Co.'s No. 3 well at Murrinsville was shot, and is showing for a 20-bbl well. No. 5 is still holding up at 125 bbls per day. Craig & Co.'s well, near the water station, north of Callery, is making 30 bbls per day. Andrews & Son's No. 4, on the Wittey farm, on Big Creek, is making an inch an hour. Christie No. 7, on the Amberson farm, is completed, and doing 25 bbls per day. Hoffman & Co.'s No. 1, at West View, is holding steady at 100 bbls per day. The Ivory No. 1 is doing the same, and their No. 2 is doing 25 bbls. In the Southwest field Miller & Co.'s well, on the Church lot, about 100 feet south from the O'Brien No. 2, struck the top of the second pay streak, filled up quickly and made a few flows. The Bear Creek Oil Co.'s well, on the Johnson farm, is two bits in the top of the sand and showing some oil. Graham's well, an the Roedells lot at West View, is three bits in the West View sand.

The half-hourly quotations were as follows:

A.M.		P.M.	
10:00	87	12:30	87
10:30	87	1:00	87
11:00	87⅛	1:30	86¾
11:30	86⅞	2:00	86⅞
12:00	87¼	2:30	86⅞
		3:00	86⅞

The clearances were as follows: New York, 500,000; Oil City, 542,000; Pittsburg, 342,000; Bradford, 720,000; total clearances May 16, 2,104,000 bbls.

Carrying rates were: New York, 25c; (renewals, 25c); Oil City, 30@35c: Pittsburg, 25@30c; Bradford, 20@25c.

Market May 16, 1889—80⅝@82⅜c.

Saturday, May 17.

The bidding was quite active this morning and there were reports of a movement on foot to buy, both here and at the West. The opening price was 87¼c., an advance of ⅝c. over the close of yesterday. Offers to sell were promptly accepted but a lull brought out an offer at 87⅛c, which was the lowest sale recorded, after which the market advanced steadily and rapidly to 88c. This, for a time, was thought to be the limit, but after some long oil had been dumped, causing a momentary depression, a fresh start was taken under which the price was advanced to 88⅝c., the market closing somewhat feverish at 88⅛c. The Oil City and Bradford markets were both of interest as the upward movement was thought to have originated there. The day's operations resulted in a gain of ⅝c. while the extent of the variations was 1½c. The sales footed up 146,000 bbls., including 3,000 bbls. May at 90¼@92c. Considerable excitement was reported in the Butler field by what is believed to be an extension or outlet to the hundred-foot oil field. The Crab Field Oil Company, composed of local producers, drilled a well on the Thomas Allen farm, two and one-half mile north of the Little Creek developments. Drilling was suspended at a depth of eighty feet in the hundred-foot sand, and the well was torpedoed with fifty quarts. Since that time it has made a number of strong flows of oil and salt water. The well was visited by several expert oil operators, all of whom expressed the opinion that it was at least a fifty-barrel well. There were found forty-five feet of unbroken white sand of excellent quality and a strong flow of gas. This is looked upon as the most important strike for several months, as it opens up a large scope of new territory. Patterson & Co. brought in two rousing wells. Their No. 2, on the Edwin Young form, started off at 10 barrels per hour, and their No. 6, on the Charles Young farm, at 20 barrels per hour. These wells have given this field a decided boom, and will result in the drilling of many new wells. John McFarland, of Pittsburg, is starting a well on the Dan Shaner farm, in Franklin township, and Frazier & Co. are starting another wildcat venture on the John Wimer farm, near Portersville.

The half-hourly quotations were as follows:

A. M.		P. M	
10:00	87¼	1:00	87⅝
10:30	87¾	1:30	88⅛
11:30	88		

The clearances were as follows: New York, 356,000; Oil City, 212,000; Pittsburg, 174,000; Bradford, 346,000; total clearances May 17, 1,088,000 bbls.

Carrying rates were: New York, 25c; (renewals 25c); Oil City, 30@35c; Pittsburg, 25@30c; Bradford, 20@25c.

Market May 17, 1889—80⅝@82⅛c.

Monday, May 19.

The upward movement had not exhausted itself on Saturday, as some of the operators predicted, and the opening this morning showed a further advance of ¼c, the first sale being made at 88¾c, and this was also the lowest price of the day. The bidding was quite animated, and the fractions were added with each sale until 90c was reached, after which the advance was slower, though trading continued good. Some of the holders who had been looking for an advance to 90c began to let their holdings go, and it was for a time thought that there would be more oil offered than would be taken, but during the afternoon heavy buying was reported on the Bradford and Oil City exchanges, and trading here also took a fresh start, the price advancing rapidly under some excitement, as the figures in a very short time passed 91c, then 92c, and finally reached 93⅝c. During this time considerable oil changed hands and the ring presented an appearance of animation that has become extremely rare of late. The cause of the advance was the buying support by parties who had become convinced that the time for a bull movement was ripe, and having once started the ball rolling it gathered strength, attracting buyers with every advance. The excitement appeared to be contagious, and many who had been bearish were now arrayed on the bull side. The close was at 93¼c., making a gain for the day of 4½c., under a range to quotations of 4⅝c. The sales reached a total of 612,000 bbls, being the largest day's business thus for this year. In the Butler field the South Penn Oil Company's No. 1, on Humphrey heirs farm, which is in the midst of a bunch of dry holes, is making 30 bbls. per day through the casing, and when tubed will probably be good for 75 bbls per day. It is apparently on the eastern edge of the pools the Patterson are drawing from. Campbell & Westerman's No. 2, on the Jas. Welch farm, is in the sand and showing for a good well. H. W. Christie & Bro.'s No. 12, on the Ifft farm, started off at 100 bbls per day. On Big Creek, the Hundred-foot Oil Company's No. 14, Vogely farm, is nearly completed and shows very little oil. Reed, Walker & Co.'s No. 1, on the Wahl farm, is finished and shot; no oil is visible yet. They are engaged in cleaning out the Hundred-foot Oil Co.'s No. 2, on the Wm. Dambach farm. The well is finished and pumping water. It has not yet been exhausted. The Long Oil Co. No. 2, on the Wahl, is making only 10 bbls per day.

The half-hourly quotations were as follows:

A. M.		P. M.	
10:00	88¾	12:30	90¼
10:30	90⅛	1:00	90⅝
11:00	90⅝	1:30	90⅝
11:30	90⅞	2:00	90¾
12:00	90¾	2:30	91
		3:00	93¼

The clearances were as follows: New York, 380,000; Oil City, 348,000; Pittsburg, 222,000; Bradford, 484,000; total clearances May 19, 1,434,000 bbls.

Carrying rates were: New York, 25c (renewals, 25c); Oil City, 30@35c; Pittsburg, 25@30c; Bradford, 20@25c.

Market May 18, 1889—80¾@82¼c.

Tuesday, May 20.

A jump of 1½c from the closing price last evening was scored this morning, the opening sale being made at 94¾c, and a rapid stride upward followed, but as this brought sellers to the front with liberal offerings there was a prompt reaction. Once the market started the other way there were many to help along a break, but the downward turn was permanently arrested at 96¼c. There were buyers for all the oil offered and it was not long before the opening price was recovered. Under fair trading the market continued to stiffen, and when a fresh buying movement was started during the noon hour the price advanced rapidly to 96¼c. As this caused the holders to let go their oil the price again eased off and some efforts were made to hammer the market, and the buyers finding the quantity offered quite large let matters take their own course, doubtless seeing they could buy to better advantage if an impression of weakness was encouraged. For the remainder of the day the tendency was downward, but the operations were smaller, and as the figures dropped below 95c. the dealers became cautious. The market closed dull and, barely steady at 94⅝c., ⅛c. under the opening figure, while the extent of the variations for the day had been 3c., giving ample opportunity for the scalpers to make profitable turns. The sales reached a total of 776,000 bbls., of which 3,000 bbls. were cash at 95⅛@95⅞c. From the fields the news was not important, but there was considerable difference in opinion as to the extension of the hundred-foot field, many regarding the previous reports exaggerated.

The half-hourly quotations were as follows:

A.M.		P.M.	
10.00	94¾	12.30	95⅝
10:30	96	1:00	96⅛
11:00	94⅛	1:30	96⅛
11:30	94⅞	2:00	95¾
12:00	95⅛	2:30	95
		3:00	94⅝

The clearances were as follows: New York, 1,172,000; Oil City, 878,000; Pittsburg, 384,000; Bradford, 1,094,000; total clearances May 20, 3,508,000 bbls.

Carrying rates were: New York, 25c; (renewals, 25c); Oil City, 30@35c; Pittsburg, 25@30c; Bradford, 20@25c.

Market May 20, 1889—80¾@81⅝c.

The amount of daily sales and total for the week follow:

Date.	Bbls.
May 14	216,000
" 15	248,000
" 16	184,000
" 17	146,000
" 19	612,000
" 20	776,000
Total for the week	2,182,000

Following is given the opening, highest, lowest and closing figures for each day, in tabulated form for comparison:

	Opening.	Highest.	Lowest.	Closing
May 14	86¾	87⅛	86¾	87⅛
" 15	87¾	88	86⅛	86⅜
" 16	87	87⅝	86⅝	86⅝
" 17	87¼	88⅝	87⅛	88⅛
" 19	86⅜	93⅝	86¾	93¼
" 20	94¾	96⅛	93⅛	94⅝

The total clearances during the week at the several petroleum exchanges foot up as follows:

New York	3,224,000
Oil City	2,270,000
Pittsburg	1,394,000
Bradford	3,100,000
	6,764,000
Total	9,988,000

The demand for refined in barrels for export continues, and there are also two tank vessels requiring cargo. It is said that the scarcity of empty barrels abroad continues, and that it has proven somewhat embarrassing, hence the increased demand for barreled oil. There has been a decline in freight rates, and this, too, has doubtless helped to stimulate the demand. The total engagements for the week foot up 145,000 bbls; about one-third is for shipment in bulk. The price for export oil in barrels was on Monday advanced to 7·20c, and

to-day to 7·40c for all loadings. The principal foreign markets are also higher. To-day's quotations by cable were: Antwerp, 17¾f; Bremen, 6·95m; London, 5⅝d, and Liverpool, 5¾@5⅞d. Freight rates are lower, with hence to London quoted at 2s 3d@2s 6d, and to Continental ports 2s 6d@3s 3d, as to port and vessel. Home trade lots have been in good seasonable request at fu'l prices. We quote 9¼@9⅝c for State legal test, 8½@8¾c for 110 test, 9@9¼c for New York 100° flash, and 10@10¼c for 150° water white. Western lots are obtainable at ¼@⅜c under these figures.

Cases for export have been in light request and sales of about 70,000 are reported. The price for plain tops has been advanced to 9·40c. Freight rates are easier. The nominal rates for large vessels are: For Java, 30@31c; Japan, 32@33c; Yokahama, 34@34½c; Calcutta 21@22c; Bombay, 27@28c. Rangoon, 31@32c; Singapore, 30@31c; Hong Kong, 30@31c and for Shanghae, 34@35c.

Crude for export in barrels has been in fair request and sales of 40,000 bbls. are reported. The price has been advanced to 7·50c. Cases for export have been in light request with sales of 16,000 reported. The price is firm at 9·40c.

Prime city naphtha has remained steady at 7·40c. For export there has been no demand and no sales are reported.

Western residuum is firmer at 2¼@2½c f o b. Barrels are quoted at 5½@5¾c. Lima residuum is quoted at 5@5¼c in barrels.

Closing Quotations.

CRUDE.

National Transit Certificates ℔ bbl.	94⅝@ 94¾
In bbls ℔ ga..	7·50
In cases	9·50
Residuum, bbls, for export 18@22°.	5¼@ 5¾
for domestic use f o b	2¼@ 2⅝

REFINED, IN BARRELS.

Cargo lots, 70° Abel test.. ℔ gal.	7·40
Philadelphia loading	7 40
Ba timore loading	7·40
50 bbl lots, f. o. b. or on dock	8¼@8⅝
10 bbl lots f. o. b. or on dock	8¼@ 8⅝

HIGH TEST OILS—JOBBING LOTS.

110 fire test, S. W ℔ gal.	8¼@ 8⅝
120 fire test, S. W	8½@ 8¾
130 fire test, S. W	9 @ 9¼
State test	9⅝@ 9¾
150 fire test, W.W	10 @10¼
300 fire test	10½@11½
New York city, 100 flash	9 @ 9¼

REFINED IN CASES, 110 FIRE TEST.

Two-five, low screw, cargo lots	9·40
5,000 to 10,000	9·60
1,00 to 5,000	9·70
700 to 1,000	9·80
400 to 700	9·90
300 to 400	10·00
200 to 300	10·10
100 to 200	10·30
Under 100	11·30

NAPHTHA AND GASOLENE.

Naphtha, crude, cargo lots, 68@72 deg	7·40
Naphtha, crude, car lots, 68@72 deg	@ 8
Naphtha, crude, 70 deg	8¼@ 9¼
Sweet, 63 deg.	9 @ 9¾
70 deg	9¼@10¼
76 deg	9½@10½
Gasolene, 86 deg	12½@14
88 deg	15 @16
90 deg	17 @18

EMPTY PETROLEUM BARRELS.

Cargoes, spot	$1 08 @1 10
Domestics, on dock	1 02½@1 05
Subject to inspection	1 05 @ —

Petroleum Statistics.

RUNS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. May 12	81,206	730,168	60,847
Tues. " 13	72,344	802,514	61,732
Wed. " 14	73,014	875,528	62,531
Thurs. " 15	74,348	949,876	63,325
Frid. " 16	71,783	1,021,659	63,854
Sat. Sun. 17 & 18	92,125	1,113,784	61,877
	1888.	1889.	1890.
January	1,138,413	1,536,161	2,108,248
February	1,209,336	1,318,800	2,055,424
March	1,324,506	1,622,230	2,313,189
April	1,335,270	1,643,610	2,328,870
May	1,449,281	1,809,098	
June	1,437,600	1,817,330	
July	1,585,328	1,954,534	
August	1,378,105	1,973,119	
September	1,268,820	1,871,160	
October	1,324,041	1,985,333	
November	1,400,790	1,919,030	
December	1,565,314	2,076,907	
Year	16,186,290	21,519,502	
Average	1,348,858	1,793,292	2,201,433

DELIVERIES—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. May 12	89,367	816,507	68,042
Tues. " 13	106,623	923,130	71,010
Wed. " 14	79,993	1,003,123	71,652
Thurs " 15	82,050	1,085,173	72,345
Frid. " 16	113,930	1,199,103	74,944
Sat. Sun. 17 & 18	87,051	1,286,154	71,453
	1888.	1889.	1890.
January	2,306,050	2,354,570	2,679,206
February	2,191,141	2,286,812	2,181,309
March	2,071,291	2,283,645	2,182,231
April	1,941,503	2,242,5462,	346,823
May	1,786,975	2,257,175	
June	1,960,893	2,276,304	
July	2,105,848	2,628,065	
August	2,228,661	2,635,593	
September	2,314,414	2,580,052	
October	2,602,127	2,790,030	
November	2,539,093	2,438,651	
December	2,411,157	2,699,422	
Year	26,470,655	29,492,864	
Average	2,205,888	2,457,739	2,347,392

CHARTERS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge
Mon. May 12	26,785	395 191	32,933
Tues. " 13	138,889	534,080	41,083
Wed. " 14	3,968	538,048	38,432
Thurs. " 15	42,857	580,905	38,727
Frid. " 16	28,571	609,476	38,092
Sat. Sun. 17 & 18	48,095	657,571	39,532
	1888.	1889.	1890.
January	914,199	1,399,557	850,752
February	1,199,169	1,120,226	782,217
March	998,923	1,270,863	648,885
April	973,208	874,753	1,416,460
May	1,257 607	1,433,764	
June	1,219,188	1,256,666	
July	1,339,147	1,892,547	
August	1,221,935	1,483,761	
September	1,487,452	1,285,501	
October	1,505,673	1,259,517	
November	847,693	1,056,340	
December	959,752	729,676	
Year	13,923,946	15,063,171	
Average	1,160,329	1,255,264	924,578

CHARTERS FOR THE WEEK.

The total charters for refined in barrels and cases, crude in barrels and cases, naphtha, &c., during the week ending May 19, were as follows:

Refined, bbls	144,500
Refined, cs	71,500
Crude, bbls	40,000
Crude, cs	16,000
Naphtha, bbls	
Residuum, bbls	
Lubricating, bbls	
Total, bbls (crude equivalent)	303,491
Total bbls. c. e. since Jan. 1	4,414,943

CLEARANCES FOR THE WEEK.

During the week ending May 19, the clearances of petroleum, in gallons, from the port of New York were as follows:

	Week.	Since Jan. 1.
Refined	7,131,115	113,064,186
Crude	1,856,492	13,502,316
Naphtha	174,225	2,971,630
Residuum		11,453

EXPORT STATISTICS.

The following table shows the total e ports from the port of New York and from the United States, reduced to crude equivalent, in gallons, for the week ending May 17; also, the total shipments to date, with comparisons with 1889:

Exports from New York for week ending May 17	13,564,645
Total exports from New York from Jan. 1, 1890	163,822,814
Same period last year	192,991,894
Decrease	29,169,080
Exports from U. S. for week ending May 17	17,820,239
Total exports from U. S. from Jan. 1, 1890	223,451,415
Same period last year	259,782,323
Decrease	36,330,908

TOTAL EXPORTS FROM DIFFERENT PORTS.

	1890.	1889.
New York	163,822,814	192 991,894
Philadelphia	55,682,761	65,3 1,489
Baltimore	3,140,722	47,726
Boston	1,295,852	1,236,394
Perth Amboy		
San Francisco	79,813	119,487
New Orleans	29,453	5,333
Grand total	223,451,415	259,782,323

CAPACITY OF VESSELS LOADING.

The following table gives the capacity of the vessels loading petroleum at the ports of New York, Philadelphia, Baltimore and Boston on May 19:

	NEW YORK. Bbls.	Cases.	PHILADELPHIA. Bbls.	Cases.
Refined	159,300	1,464,000	32,500	129,000
Crude	14,000	54,000	37,500	55,000
Naphtha	11,000	1,000		
Total	184,300	1,519,000	77,000	184,000
	BALTIMORE. Bbls.	Cases.	BOSTON. Bbls.	Cases.
Refined	7,000			
Crude				
Naphtha				
Total	7,000			

Foreign Statistics.

REFINED QUOTATIONS.

	Antwerp.	Bremen.	London
Wed. May 14	@17½	6.80	5¼@5¾
Thur. " 15	@17½	6.80	5¼@5¾
Fri. " 16	17½@ —	6.85	5 @5¼
Sat. " 17	17½@ —	6.85	5¼@5¾
Mon. " 19	17½@17¼	6.85	— @5¾
Tues. " 20	— @17¾	6.95	— @5⅞

STOCKS, RECEIPTS AND SHIPMENTS.

The statistical situation at the seven principal continental ports on May 2 was:

	1890.	1889.
Stock, May 3	328,377	385,3 1
Afloat "	182,106	218 351
Loading "	212,400	102,300
Total	722,883	706,182
Receipts April 26 to May 3	95,228	49,283
Re'ts July 1, '89, to May 3, '90	3,830,067	3,685,394
Shipments Apr. 26 to May 3	72,653	57,572
Shp's July 1, '89, to May 3, '90	4,248,035	3,634,376

At London the statistical situation on the same date was made up as follows:

	1890.	1889.
Stock, May 3		89,416
Afloat "	2,330	11,000
Loading "	28,000	
Total	100,446	
Receipts Apr. 26 to May 3	11,115	
Rec's July 1, '89, to May 3, '90	669,095	
Shipments Apr. 26 to May 3	10,109	
Shp'ts July 8, '89, to May 3, '90	779,325	

Petroleum Charters.

Following is a list of vessels chartered and loading or to load petroleum at New York, Philadelphia, Baltimore and Boston. Quantities refined in bbls., unless stated otherwise:

NEW YORK.

March 4

Br shp Forest King, Shanghae, 37c....cs 60,000

March 12

Swed shp Edward, Sweden, p t 7,000

March 15

It bk Michele, Seville, 19c....cs cde 14,000

Am sh Annie H Smith, Hong Kong 29c, Japan 33c....cs 60,000

March 20

Am sh Wildwood, Hong Kong, 30c, Shanghae, 37s or Japan 34c....cs 60,000

March 24

Nor bk Vaering, Swedish port, p t 2,000

March 26

Br shp Manydown, Calcutta, 21½c....cs 96,000

April 2

Br shp Kelverdale, China & Japan, p t.cs 50,000

April 3

Am shp Thos Dana, Shanghae 31c, Japan 31c....cs 50,000

Nor shp Tagal, Gothenburg, 2s 7½d 6,000

Ger bk Johanne, Baltic, p t 6,800

April 5

Am shp B P Cheney, Hong Kong, 29c..cs 50,000

Br str ——, China and Japan, p t ....cs 65,000

April 7

Nor bk Marie, Baltic, p t 6,000

April 8

Br bk Africa, Hai Fong & Saigon, p t..cs 45,000

April 9

Ger str Oevelgonne, Hamburg, tank.... 21,000

April 10

Br sh Queen of Scots, Calcutta, 20½c..cs 55,000

April 14

Br sh Ardencraig, Calcutta, p t,....cs 85,000

April 15

Ger bk China, Hamburg, p t 5,400

Nor bk Vesta, Baltic, 3s 4,000

April 16

It bk Monte St Angelo, Exmouth, 2s 10d 2,700

Swed bk Hudiksvall, Swed Baltic, p t.... 8,600

April 18

Ger bk Bremerhaven, Stettin, 2s 7½d 6,500

Am shp Jacob E Ridgeway, Hong Kong, 29c ....cs 60,000

Br bk Minden, Dunkirk, 2s 6d....cde 8,000

Br shp Bay of Panama, Calcutta, 20c..cs 95,000

Dan bg Anna Charlotte, Danish port, p t 1,000

Nor bk Wilhelm Birkdal, Norway, p t... 5,500

April 19

Br sh Creedmoor, Java, 29½c....cs 60,000

April 22

Am sh St Nicholas, Japan 31c, Hong Kong 29c....cs 60,000

Am sh Josephus, Japan, 31c....cs 50,000

April 23

Nor bk Olbers, Baltic, 3s 6d 5,000

April 24

Nor bk Ragna, Christiania, 2s 9d 7,000

Am bk H G Johnson, Java, 29½c, 30½c.cs 26,000

April 25

It bk Mon, Straits, 25½c, 26¼c....cs 40,000

It bk Cavalea, Stettin, 3s 4,000

It bk Italia, Plymouth or Exmouth, 2s 7½d 3,000

April 28

Am bk Penobscot, Straits, 27, 28c....cs 38,000

Ger shp Fritz, Bremen, 2s 4½d. 10,000

April 29

Br sh Rajore, Calcutta, 21¼c....cs 80,000

Am bk W B Flint, Montevideo, 32c....cs 10,000

Aus bk Ilia, Gothenburg, 3s 4,500

April 30

Am sh Sea Witch, Hong Kong 30c, Japan 32c....cs 50,000

May 1

Br bk Antwerp, London, 2s 3d 7,200

Nor bk Saga, Bilboa, 21½c....cs cde 19,000

May 2

It bk Colombo, Algiers, 16c....cs 20,000

Ger sh Stella, Bremen, pt. 7,500

Br sh Highlands, Baltic, 3s 3d 8,500

May 3

Am sh Fannie Tucker, Hong Kong 31c, Japan 33c....cs 55,000

May 5

Br sh Ravens Hall, Calcutta 22c, Chittagong 22½c....cs 65,000

Ger bk Geo Washington, Hamburg, 2s6d 7,600

May 6

Br bk Talisman, Dunkirk, 2s 10½d....cde 6,000

Ger bk Duppel, 2 Swedish ports, 3s 9d.... 3,000

Ger sh Elise, Bremen, 3s....nap 6,000

Ger shp Mommsen, Continent 2s 9d, Baltic 3s 3d 500

Ger shp Fidelio, Bremen, Hamburg, Antor London, 2s 9d 8,500

May 7

It brg Madawaska, Algiers or Oran, 15c....cs 17,000

Am shp City of Montreal, Stettin, 3s 1½d 7,000

May 8

Ger ship Barbarossa, Baltic, 3s 8,200

It bg Prattatore, Spanish port 18c, Gibraltar f o 18½c....cs 15,000

Am ship Wm H Starbuck, Java 31, 32, 33c cs 55,000

Nor bk Wilhelm Birkedel, Swedish port, p t 5,000

Aus bk Padosa, Stralsund, 3s 3d 4,000

Br bk Exile, Dunkirk, 2s 0½d ....cde 6,000

May 9

Br bk Alice Cooper, Dunkirk, 3s....cde 5,700

Am sh Robert Dixon, Dunkirk, 3s....cde 8,500

Ger bk Felix Mendelsohn, Baltic, 3s 6,000

May 10

Ger bk Atlantic, Bremen, 2s 4½d, Hamburg 2s 6d 8,500

Am sh Isaac L Skofield, Calcutta, 22c.cs 60,000

May 12

Br bk Abyssinia, Japan, p t....cs 45,000

May 13

Br bk Chignecto, Hamburg, 2s 6d 6,000

Ger sh Baltimore, Hamburg, 2s 6d 7,000

Br bk Jas Stafford, Hamburg, 2s 6d 7,000

Br bk Athlon, Dutch ports, 2s 3d 8,500

Ger str Hafis, Copenhagen or Aarhuus, tank 16,000

Br bk Cedar Croft, Stettin, 3s 3d 7,000

Br sh Coringa, Liverpool, 2s 3d 8,000

May 14

It bk Gaeta, Uddevalla, 3s 3d 2,500

Br sh Faulkland, Calcutta, 21½c....cs 110,000

May 15

Ger bk Agnes, Baltic, pt 5,500

May 16

Br bk Linden, Bergen, 3s 5,500

Nor bk Ilos, Sweden, pt 4,500

Br sh Glenfinlas, Calcutta, 22c....cs 85,000

Br bk Earl of Devon, Tralee, 3s 2,500

May 17

Br str Wild Flower, French port, tanks ....cde 20,000

May 19

It bk Teresinella, Seville, 17¼c ..cs cde 16,000

Nor bk Nor, Sarraholme 3s 1½d, Christiania 3s 3d 3,500

It bk Monte A, Stettin, 3s 1½d 4,500

It bk San Leonardo, Baltic, 3s 1½d 5,000

PHILADELPHIA

Jan 28

Br shp Jane Burrill, Japan, 34s....cs 70,000

Feb 25

Nor bk Ajax, U K or Cont, 3s 5,50

April 10

Am bk Sunbeam, Sicily pt....cs 32,000

April 15

Am sh Gov Goodwin, Saigon, 30½c....cs 60,000

Br sh Glenericht, Calcutta, 20½c....cs 80,000

April 16

Belg str La Flandre, Antwerp, tank.... 20,000

April 23

Nor bk Johannes, Baltic, 3s 6,000

April 29

Nor bk Mod, Bergen or Stralsund, 3s 6d 3,000

May 1

It bk Pellicano, Fiume, 19c....cs cde 35,000

May 2

Ger sh Hampton C'rt, Continent, 3s..nap 6,000

May 5

It bk Restituto Madre, Cagliari, 18c....cs 20,000

May 7

It bk Olivia Speciosa, Italy, p t....cs 24,000

May 12

Nor bk Mow, Baltic, 3s 3½d 3,000

It bk Maria Adelaide, Seville, 19c.cs cde 20,000

Fr bk Sempiternal, Marseilles, 2s 9d..cde 2,500

May 13

Ger str Minister Mayback, Flushing, tnk 20,000

Br str Russian Prince, Rouen, tank, cde 20,000

May 15

Br sh Canara, Japan, 33c....cs 60,000

Br sh Loch Eck, Japan, 33c....cs 65,000

Br sh Petersborough, Japan, 33c....cs 70,000

Am sh John R Kelley, Japan, 33c....cs 90,000

Br str Oka, U K or Cont, tank 21,000

It bk Nuova Stella, Medit, pt....cs 30,000

May 16

Ger bk Orpheus, Ger Baltic, 3s 1½d 5,500

May 17

Ger sh Otto, Bremen, pt 8,500

It bk Alfredo, Genoa, pt ....cs 24,000 & 2,000

May 19

Ger bk Don Quixote, Hamburg, 2s 6d 7,000

It bk Celestina, Cagliari, 18½c....cs 17,500

BALTIMORE

April 17

Ger str Wilkommen, Bremen, tank.... 24,500

May 10

Br shp Lord Lyndhurst, Stettin or Dantzic, 3s 7,000

Clearances of Petroleum.

Following are the clearances of petroleum from the ports of New York, Philadelphia Baltimore, Boston and San Francisco on the dates named. Refined, unless otherwise specified:—

NEW YORK

May 13

Am bk M P Tucker, Buenos Ayres, 5,800 cs

Am bk Wandering Jew, Georgetown, 1,525 cs

Br bg Kildonan, St John's, Ant, 300 cs

Br bk E Sheraton, St Domingo City, 480 cs

Br str Orinoco, Hamilton, 14 pgs, 65 bbls

Br str Alvena, Jeremie, 400 cs

Br str Alvena, Kingston, 65 bbls, 351 cs

Br str Alvena, Sav La Mar, 220 cs

Br str Alvena, Pt Limon, 10 bbls, 375 cs

Br str Lisbonense, Para, 810 cs

Br str Lisbonense, Pernambuco, 600 cs

Br str Lisbonense, Maceio, 6,000 cs

Ger str Hassia, Shanghai, 20,000 cs

Ger str Hassia, Hong Kong, 10,300 cs

Por str Olinda, Oporto, 12,600 cs

Exports of Petroleum from New York

REFINED.

COUNTRIES.	Week Ending May 19. Gals.	Jan. 1 to May 12, 1890. Gals.	Jan. 1 to May 15, 1889. Gals.
Africa, Liberia			6,150
Sierre Leone		25,100	5,000
South Africa	76,740	418,980	976,160
Zanzibar		623,000	
Algiers			573,000
Arabia		665,920	
Argentine Republic	86,000	831,952	1,474,560
Australia	106,780	2,111,219	1,435,219
Austria			
Azores		7,340	
Belgium		8,099,527	8,936,915
Brazil	74,200	2,942,089	3,304,218
British East Indies, Aden		180,000	250,000
Burmah			1,443,630
India	734,170	4,453,100	12,525,930
Penang		801,970	799,630
Singapore			1,883,130
British Guiana	20,250	155,177	158,890
British West Indies, Antigua	3,000	30,660	9,386
Barbadoes	17,500	153,986	107,625
Basse Terre		33,310	14,020
Bermuda	4,008	73,085	44,652
Domenica		5,550	9,950
Jamaica	63,486	291,844	196,449
Montserrat		3,050	2,170
Nassau		20,902	38,205
St. Lucia	1,000	12,936	5,923
St. Vincent		24,530	10,000
Trinidad	2,000	134,550	114,525
All others	101	104,469	84,175
Canary Islands		74,000	232,912
Central America, Belize		24,853	31,110
Costa Rica	4,250	20,235	16,613
Guatamala		39,558	32,977
Honduras		12,630	13,950
Nicaragua	8,012	59,800	64,382
San Salvador		17,295	35,850
Chili	15,000	502,000	421,000
China, Cochin	933,000	11,023,660	10,259,900
All other		585,000	
Cuba	20,000	81,244	687,587
Danish West Indies		24,843	20,205
Denmark		437,040	1,205,283
Dutch East Indies, Java		2,584,690	11,521,650
Macassar		672,900	528,250
Sumatra		415,480	
Dutch West Indies	6 832	63,731	38,300
Dutch Guiana	10,500	150	18,703
Ecuador		54,820	62,000
England	1,794,552	11,461,048	10,780,771
Egypt			1,670,320
France		283,846	2,333,544
French Guiana		2,500	21,000
French West Indies	13,500	204,082	2,527,530
Germany	1,421,763	28,059,357	26,843,819
Gibraltar	30,000	200,100	407,580
Greece			
Hawaiian Islands		140,000	
Hayti	8,951	230,617	237,450
Ireland			1,349,490
Italy	136,071	1,247,187	3,550,228
Japan	545,000	6,964,780	6,949,770
Madeira Islands	30,000	4,000	
Malta		4,000	
Mauritius Island		140,500	
Mexico	10	71,600	282,215
Moucca Islands		156,000	
Netherlands		13,713,207	10,475,205
New Zealand	102,424	462,790	231,964
North America, New Brunswick	25,000	263,527	262,612
New Foundland		22,068	11,365
Nova Scotia		201,024	137,627
Prince Ed. Island			
Norway and Sweden	448,250	917,828	1,047,799
Peru		137,272	3 2,463
Porto Rico	24,000	324,725	352,480
Philippine Islands		706,570	700,000
Portugal	126,000	86,013	194,071
Reunion			
Russia			
Scotland		1,050	
Siam		278,220	325,000
Spain		10	429,370
Tasmania			64,800
Turkey	25,440		
U. S. of Col	7,420	236,561	585,768
Uruguay	170,000	674,930	958,900
Venezuela	65,935	319,230	485,815
Wales			
Total	7,131,115	105,935,071	127,019,059

CRUDE.

COUNTRIES.	Week Ending May 19. Gals.	Jan. 1 to May 12, 1890. Gals.	Jan. 1 to May 15, 1889. Gals.
Argentine Republic			
Australia			
Austria			674,572
Belgium			
Brazil			
British Guiana			
British North America			
British West Indies			
Canary Islands			
Chili			
China			
Central America			
Cuba	185,852	1,742,245	1,741,705
Danish West Indies			1,095
Dutch East Indies			
Dutch West Indies			
England			111
France	1,453,140	5,765,651	8,875,585
Germany		509	1,511,435
Gibraltar		191,350	
Hawaiian Islands			
Mexico		459,150	1,365,724
Norway and Sweden		188,785	170,805
Spain	217,500	3,196,564	996,370
U. S. of Col		471	
Uruguay			
Venesuela			
Total	1,856,492	11,544,725	15,483,913

NAPHTHA.

COUNTRIES.	Week Ending May 19. Gals.	Jan. 1 to May 12. 1890. Gals.	Jan. 1 to May 15, 1889. Gals.
Africa			
Algiers		300	
Argentine Republic		3,900	1,950
Australia			
Belgium		141,871	140,000
Brazil		3,800	5,415
British North America			102
British West Indies			12
Central America		2,000	
Chili			
Cuba			25,000
Denmark			
England	174,225	1,052,543	1,414,967
France		467,647	302,910
Germany		1,017,163	678,402
Hayti			
Ireland			
Mexico		1,800	
Norway and Sweden		106,806	317,830
Portugal			
Russia			
Turkey			
Uruguay			
Venesuela		475	180
Total	174,225	3,097,595	2,987,319

Swed bk Hudiksvall, Stockholm, 8,794 bbls

May 14

Am sh Wm H Connor, Yokohama, 54,500 cs
Am sch A B Crosby, Colon, 240 cs
Am sch A B Crosby, Fajardo, 1,200 cs
Am sch A.dine, Surinam, 1,050 cs
Br bk Lurline, Brisbane, 11,050 cs
Br bk Lurline, Hobart, 2,650 cs
Br str Wicklow, Rosario, 3,000 cs
Br str Wicklow, Montevideo f o, 15,000 cs
Am str Venezuela, Curacao, 6 pgs, 11 bbls, 106 cs
Am str Venezuela, La Guayra, 1,700 cs
Am str Venezuela, Maracaibo, 805 cs
Am str Venezuela, Pt Cabello, 6 bbls, 2,370 cs
Am str Venezuela, Coro, 35 cs
Ger bk Jupiter, Montevideo, 2,000 cs
It bk Snta Anna Marie, Pozzouli, 2,668 bbls

May 15

Am bk Antonio Sala, Havana, 23 tanks cde
Am bg T Towner, St Croix, 100 cs
Am bg T Towner, Christenstedt, 125 cs
Am bg Robert Mowe, St Pierre, 350 cs
Am sch I Alberto, Baracoa, 400 bbls
Am str Newport, Colon, 262 cs
Br bg I Balcom, Ponce, 1,260 cs
Br bk V L Stafford, Pt Elizabeth, 800 cs
Br sh Dulep Singh, Valparaiso, 1,500 cs
Br str El Callao, Cd Bolivar, 1,702 cs
Br str Sidonian, Kingston, 5,810 cs
Br str Bermuda, Guadeloupe, 1,000 cs
Br str Bermuda, Barbadoes, 500 cs
Br str Bermuda, St Lucia, 100 cs
Br str Bermuda, Trinidad, 200 cs
Dut str Prins Willem II, Carupano, 110 cs
Ger sh J Weisenhorn, Bremen, 12,466 bbls
It bk Italia, Exmouth, 3,000 bbls
It bk Nord America, Madeira, 3,000 cs

May 16

It bk T Cosulich, Wellington, 58 bbls, 6,412 cs
Am bk Mendoza, Havana, 13,000 cs, 18 tanks, cde
Am sh J E Ridgway, Hong Kong, 63,000 cs
Br bk Antwerp, London, 3,500 bbls, 3,450 bbls nap
Br bk Minden, Dunkirk, 8,808 bbls
Br bk Elcho, Georgetown, 500 cs
Br bk Angara, Cape Town, 7,150 cs
Br str Manhattan, London, 1,400,000 gls bulk
Br str Aguan, Greytown, 700 cs
Br str Wild Flower, Rouen, 1,001,793 gls bulk
Ger str Hafis, Aarhus, 792,220 gls bulk cde

May 17

Am str America, Bridgetown, 750 cs
Am sh W H Van Name, Marsh Harbor, 1 bbl, 5 cs
Am str Yumuri, Progreso, 1 cs
Br bg Alice Bradshaw, Pt au Prince, 12 bbls, 295 cs
Br sh Columba, Calcutta, 73,417 cs
Br str Glenmavis, London, 1,254 bbls
It bk La Fiducia, Vigo, 21,750 cs cde
It str, Entelia, Gibraltar, 3,000 cs

May 19

Am bg Scud, Bridgetown, 500 cs
Am bg Daylight, Christenstedt, 150 cs
Am bg Daylight, Frederickstedt, 100 cs
Am sch Bucephalas, Bluefields, 10 bbls, 50 cs
Br sch Holmes, St John N B 500 bbls
Ger bk Rudolph Josephy, Nelson, 3,700 cs
Ger bk Rudolph Josephy, Dunedin, 1,230 cs

SAN FRANCISCO

April 28

Empire, Victoria, 50 cs

April 30

City of Papeete, Tahiti, 95 cs
City of Papeete, Marquesas, 40 cs

May 3

Colima, Mexico, 15 cs
Lurline. Hilo, 100 cs

BOSTON

May 14

Sch Neva, Paspebiac, 60 bbls
Sch Karslic, Juaco, 2 bbls
Sch Annie Simpson, Sydney C B, 20 bbls

PHILADELPHIA

May 12

Shp Evesham Abbey, Hiogo, 62,350 cs
Ger str Elbruz, Blaye, 1,166,594 gls bulk cde
Am bg Amy A Lane, Plymouth, 2,285 bbls

May 13

Ger str Minister Maybach, Flushing, 1,110,000 gls

May 14

Bk Einar, Havre, 203 bbls cde, 233,794 gls cde
It bk Salvatore, Tunis, 16,554 cs

May 15

Fr str Ville de Donai, Calais, 714,684 gls cde
It bg C Immacolata, Taranto, 15,057 cs

May 16

Br str Russian Prince, Rouen, 1,177,061 gls cde
Br bk John Johnson, Koenigsberg, 4,058 bbls

Imports of Empty Petroleum Barrels.

NEW YORK

2,773, G Heye, J Stafford, London
1,200, R A C Smith, Habana, Havana
1,020, Standard Oil Co, N Bruce, St John, N B

The Oil and Tallow Trades of Bristol.

The Bristol Chamber of Commerce has caused a special report of the oil and tallow trades of the city to be prepared. The report is as follows:

Rape Oil, contrary to general expectation has not only maintained the high prices realized during the latter part of 1888, but considerably exceeded them; and although there was a decided falling off during May, June, July, it was only of a temporary nature, the many years.

Castor oil has also been in great demand, and its value as a lubricant being more than eve- appreciated, the prices obtainable have been higher than during 1888, and there is at present no indication of any decline in either East Indian or French olive oil. The expectations formed at the close of 1888 of a general decline in prices were not fully realized, as, although there was some reduction during the spring months, the market advanced, and now remains very firm.

Cottonseed Oil commanded full and increased prices until the autumn, when a sharpish fall was experienced. The average London prices were as follows:

	s.	d.
January	25	10½
February	25	3
March	24	6
April	25	0
May	25	6
June	26	9
July	26	8¼
August	27	3
September	27	1½
October	23	9
November	24	7¾
December	22	5¼

Linseed Oil opened at a somewhat low price which, however, steadily advanced until September, when it began to decline, the market at the close of the year standing at 30s 6¼d.

Tallow has been rather unsteady, except in the case of P.Y.C., which has been unusually firm, averaging 38s 6d throughout the entire year. Other qualities opened at a high price, but the market afterwards varied considerably, and in December the quotation was 27s.

Palm Oil.—Fine Lagos opened up rather better than in the preceding year, but gradually declined towards the summer months. Later on, however, it recovered itself, and at the end of the year was moderately firm at 25s 6d.

Turpentine has realized higher prices than during 1888. The number of barrels imported into Bristol during the year was 20,351, as against 16,950 in 1888.

CONTENTS.

EDITORIALS:—
Franklin H. Tinker 5
Congress Talking Tariff 5
Pig Lead Advancing. 5
The Window Glass Market 5
Druggists Still Protesting 6
Meeting of Soap Makers 6
Scarcity of Paraffine Wax. 6
April Petroleum Statistics 6
The Corn Starch Combine 6
Some Pointers on Phosphate 6
Lard and Tallow 7
TRADE ITEMS 7
PETROLEUM NOTES 7
OBITUARY:—
Lewis C. Paine 7
John H. Reddington 7
W. P. Fuller 7
CHICAGO LETTER 12
MISCELLANEOUS:—
Our London Letter 8
Protesting Druggists. 8
Consolidation in the Glass Trade 9
Our Census of Manufactures 9
Chicago Paint, Oil and Varnish Club 9
The Petroleum Trade of Bristol 10
The Petroleum Trade of Batoum 10
The Petroleum Trade of the West of England and South Wales 10
The Western Glass Trade 10
On the Measurement of Durability of Lubricants 11
Summaries of the Pipe Line Statements for April 12
Exports of Mineral Oils for April 12
Synthesis of Grape Sugar 13
Utilization of Waste in Glue Making 17
Window Glass Statistics 20
The Trade in Pepper 20
Steatite as a Pigment for Anti-Corrosive Paint 20
The Java Cinchona and Coca Industries 21
The Petroleum Trade of Dublin 21
Active Constituent of Insect Powder 21
Protest against the Lard Bill 24
European Stocks of Lard 24
The English Lard Trade 27
Cottonseed Meal and Hulls as Food for Live Stock 27
The Oil and Tallow Trade of Bristol 33
A Study in Drugs 43
Messrs. Zimmer & Co.'s Report 44
Opium in China 44
New Alkaloid from Scopolia Atropoides 51
Phosphate Rock Shipments 51
That Peruvian Petroleum Field 52
Perseite, a Heptacid Alcohol 52
Caffeine Tri-Iodide 52
Tar and Tar Products Industry 54
Curare 54
Japanese Sulphur Mines. 55
THE MARKETS:—
Paints ..... 15 to 17
Oils ..... 25 to 27
Naval Stores 27
Petroleum ..... 31 to 33
Drugs ..... 41 to 44
Chemicals ..... 49 to 51
Dyes 54
PRICES CURRENT:—
Paints 45
Oils 45
Naval Stores 45
Drugs ..... 45 & 45
Chemicals 45
Dyes 45

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MPORTS, EXPORTS, DOMESTIC RECEIPTS, Etc.

MPORTS ENTERED AT NEW YORK FOR CONSUMPTION.

Week ending May 17.

ACID—8 cs, 500lb, T Weicker, East Lothian, Hamburg
2 c , W H Schieffelin & Co, Ludgate Hill, London
5 cks, 4,974lb, L Engelhorn, Werra, Bremen
ACETIC—2 cs, 11lb, R Kug & Co, Fernside, Hamburg
BENZOIC—20 cks, 2,000lb, Pickhardt & Kuttroff, Rotterdam, Rotterdam
CARBOLIC—12 cks, R F Downing & Co, Oxenholme, Liverpool
10 cks, Pickhardt & Kuttroff, Rotterdam, Rotterdam
CITRIC—16 pgs, 2,240lb, H Klein & Co, Ludgate Hill, London
36 pgs, 4,400lb, McKesson & Robbins, Ludgate Hill, London
OXALIC—19 cks, 10,806lb, Roessler & Hasslacher Chemical Co, Russia, Hamburg
15 cks, 9,328lb, Roessler & Hasslacher Chemical Co, Rugia, Hamburg
30 cks, 22,803lb, Roessler & Hasslacher Chemical Co, Buffalo, Hull
30 cks, 17,663lb, J L & D S Riker, Montauk, Swansea
PHOS—10 cks, 6,831lb, Maas & Waldstein, Sorrento, Hamburg
5 cs, R F Downing & Co, Ludgate Hill, London
PICRIC—28 kgs, 2,240lb, Read Holliday's Sons, Wyoming Liverpool
ALBUMEN—10 cks, 6,801lb, Pickhardt & Kuttroff, Buffalo, Hull
5 cs, 1,139lb, C B Richard & Co, La Gascogne, Havre
2 pgs, 465lb, E & H T Anthony & Co, California, Hamburg
16 cs, Pickhardt & Kuttroff, Rotterdam, Rotterdam
ALIZARINE—110 cks, Pickhardt & Kuttroff, Rotterdam, Rotterdam
44 cks, Schulze-Berge & Koechl, Waesland, Antwerp
ALOES—6 cs, 683lb, M Koenigsheim, Ludgate Hill, London
AMMONIA CARB—50 cks, 29,846lb, J L & D S Riker, Egypt London
40 cks, 24,453lb, Roessler & Hasslacher Chemical Co, California, Hamburg
MURI—30 cks, C De P Field, Montauk, Bristol
12 cks, 18,468lb, J L & D S Riker, Wyoming, Liverpool
SAL—10 cks, C De P Field, Montauk, Bristol
15 cks, 10,936lb, H Morrison Jr, Fernside, Hamburg
10 cks, 11,444lb, J L & D S Riker, Wyoming, Liverpool
10 cks, 7,447lb, Roessler & Hasslacher Chemical Co, California, Hamburg
ANILINE COLORS—14 cks, C Georgi, Aller, Bremen
32 cks, Earle & Co, Russia, Hamburg
23 cks, C Georgi, Maasdam, Rotterdam
10 kgs, 20 cs, Boston Dye & Chemical Co, Aller, Bremen
2 cks, Davis & Walton, Werra, Bremen
8 cks, A Klipstein, Servia, Liverpool
3 cks, 1,047lb, Read Holliday's Sons, Wyoming, Liverpool
16 cks, 2,200lb, J Movius & Son, California, Hamburg
1 cs, Issacs, Vought & Co, California, Hamburg
4 cks, Kalle & Co, Waesland, Antwerp
18 cks, 22 cs, E Schibach & Co, Waesland, Antwerp
1 csk, J Campbell & Co, Waesland, Antwerp
6 pgs, 1,636lb, J J Keller & Co, Waesland, Antwerp
19 pgs, 1,900lb, A Klipstein, Waesland, Antwerp
12 cks, 1 cs, Schulze-Berge & Koechl, Waesland, Antwerp
128 cks, 25 cs, Pickhardt & Kuttroff, Rotterdam, Rotterdam
30 cs, 3,850lb, J Movius & Son, Gellert, Hamburg
13 cs, 1,306lb, Sykes & Street, La Champagne, Havre
7 pgs ex Arizona, credited in our last to R J Haguet & Co, should have been J Campbell & Co
SALTS—32 cks, 16,027lb, Pickhardt & Kuttroff, Illinois, Antwerp
20 cks, 11,308lb, Geisenheimer & Co, Sorrento, Hamburg
1 cs, 110lb, E & H T Anthony & Co, Aller, Bremen
46 cks, J A & W Bird & Co, Wyoming, Liverpool
50 cks, 18,436lb, Pickhardt & Kuttroff, Waesland Antwerp
59 cs, Schulze-Berge & Koechl, Waesland, Antwerp
ANISEED—25 bls, 5,500lb, Kirby & Birkett, Anglia, Bari
50 bls, 11,000lb, Fischer & Ewald, Anglia, Bari
ANNATTO SEED—1 bg, 202lb, J E Kerr & Co, Alvo, Kingston
5 bbls, 1,050lb, Leaycraft & Co, Alvo, Kingston
4 bgs, 1,007lb, A S Lazcelles & Co, Alvo, Kingston
9 pgs, 1 630lb, Macy & Dunham, Alvo, Kingston
8 bgs, Sandford & Klatte, Alvo, Kingston
5 bbls, 880lb, Perkins & Welsh, Alvo, Kingston
ANTIMONY—40 cks, 26,880lb, American Metal Co, Ludgate Hill, London
100 cks, 67,200lb, E Hills Son & Co, Iago, Newcastle
38 cks, 22,215lb, American Metal Co, Ethiopia, Glasgow
28 cs, 5,320lb, R Hillier's Son Co, Merionethshire, Kobe
ARCHIL—10 bbls, J J Keller & Co, La Gascogne, Havre
ARGOLS—212 bgs, 57,725lb, Loeb & Bros, Rugia, Havre
47 cks, 42,407lb, Loeb & Bros, Anglia, Trieste
16 cks, 290 bgs, 99,228lb, C Pfizer & Co, Urbino, Messina
33 cks, 44,022lb, New York Tartar Co, Urbino, Messina
265 bgs, 63,912lb, Loeb & Bros, Urbino, Messina
689 bgs, 193,117lb, Union Chemical Works, Urbino, Messina
254 cks, 50 bgs, 314,782lb, New York Tartar Co, Anglia, Barietta
24 cks, 428 bgs, 221,698lb, C Pfizer & Co, Anglia, Barietta
14 cks, 13,778lb, New York Tartar Co, City of New York Liverpool
43 cks, 42,322lb, C Pfizer & Co, California, Hamburg
22 cks, 22,618lb, Loeb & Bros, Germanic, Livorpoo.
16 cks, 21,797 lb, New York Tartar Co, Devonshire Messina
ASPHALTUM—48 bgs, 7,000lb, H A Forrest & Co, Yumuri, Vera Cruz
18 pgs, 1,892lb, Roessler & Hasslacher Chemical Co, Gallia, Liverpool
ASSAFOETIDA—12 cs, McKesson & Robbins, J Stafford, London
BALSAM COP—16 cs, 1,329lb, Punderford & Co, Caracas, Curacoa
TOLU—10 cs, 1,100lb, J A DeLima & Co, Athos, Savanilla
BARK—66 bls, 10,979lb, Stallman & Fulton, J Stafford, London
25 bls, 3,396lb, J Clay, Cienfuegos, Nassau
25 bls, 1 bg, 1,320lb, J Clay, Egypt, London
BARYTES NITRATE—10 cks, 2,200lb, Gabriel & Schall, Waesland, Antwerp
SULPH—1 ck, 236lb, H Merz, California, Hamburg
BERLIN BLUE—2 cks, H Kohnstamm & Co, Servia, Liverpool
23 cks, Pickhardt & Kuttroff, Rotterdam, Rotterdam
BLEACH—271 cs, Mason, Chapin & Co, Oxenholme, Liverpool
BRIMSTONE—2,303 tns, American Trading Co, Gov Robie, Hakodati
500 tns, A S Malcomson, Letimbro, Gergenti
500 tns, A S Malcomson, Devonshire, Licata
BRONZE POWDER—8 cs, J Marsching & Co, Aller, Bremen
18 cs, G Meier & Co, Werra, Bremen
8 cs, T Reissner, Werra, Bremen
3 cs, Sondheim, Alsberg & Co, Werra, Bremen
9 cs, T Reissner, Werra, Bremen
1 cs, E Ehrmann, Aller, Bremen
1 cs, R F Downing & Co, Elder, Bremen
4 cs, R F Downing & Co, Werra, Bremen
4 cs, Eiche, Mungar & Jackson, Werra, Bremen
6 cs, K Schmidt & Co, Werra, Bremen
6 cs, C Helmuth & Son, Werra, Bremen
4 cs, J Marsching & Co, Werra, Bremen
BUCHU LEAVES—6 bls, 1,820lb, Tyler & Finch, Egypt, London
CACAO BUTTER—15 pgs, R F Downing & Co, Rotterdam, Rotterdam
15 pgs, 2,925lb, Runkel Bros, Rotterdam, Amsterdam
CANARY SEED—4,000 bgs, J D Nordlinger, Battistina Madre Rodosto
4,000 bgs, G W Sheldon & Co, Battistina Madre, Rodosto
CARAWAY SEED—100 bls, 11,000lb, J D Nordlinger, Rotterdam, Rotterdam
200 bgs, 22,000lb, C Rosenstein & Co, Rotterdam, Rotterdam
30 bgs, 3,300lb, G W Sheldon & Co, Rotterdam, Rotterdam
CARDAMOMS—11 pgs, 520lb, J Clay, Egypt, London
CARLSBAD WATER—392 cs, Eisner & Mendelson Co, California, Hamburg
CASSIA—462 pgs, 20,369lb, G S Adrian & Co, Rotterdam, Amsterdam
CELERY SEED—21 bgs, 4,116lb, J D Nordlinger, Egypt, London
CEMENT—1,120 bbls, E Thiele, Russia, Hamburg
1,030 bbls, E Thiele, Illinois, Antwerp
1,000 bbls, J Brand, Egypt, London
435 bbls, E Thiele, Ludgate Hill, London
87 bbls, F A Reichardt, Immacolata, Marseilles
5,014 bbls, Dickinson Bros & King, Fernside, Hamburg
1,500 bbls, Batjer & Meyerstein, Fernside, Hamburg
1,120 bbls, Gabriel & Schall, Sorrento, Hamburg
1,500 bbls, C J Stevens, Egypt, London
1,000 bbls, Dickinson Bros & King, Egypt, London
800 bbls, C J Stevens, Ludgate Hill, London
500 bbls, J Brand, Ludgate Hill, London
1,000 bbls, J Brand, Illinois, Antwerp
500 bbls, H Fleming, Egypt, London
500 bbls, H Fleming, Ludgate Hill, London
20 bbls, Hammill & Gillespie, Ludgate Hill, London
1,000 bbls, Hammill & Gillespie, J Stafford, London
1,500 bbls, Dickinson Bros & King, J Stafford, London
2,100 bbls, Sinclair & Babson, Mareca, Antwerp
2,100 bbls, Sinclair & Babson, J Stafford, London
2,830 bbls, Dickinson Bros & King, Annie, Hamburg
5,300 bbls, A C Babcor, East Lothian, Hamburg

1,500 bbls, A C Babson, East Lothian, Hamburg
800 bbls, Dickinson Bros & King, California, Hamburg
1,120 bbls, Batjer & Meyerstein, F Mendelsohn, Bremerhaven
1,000 bbls, C H Spencer, India, Antwerp
3,650 bbls, Dickinson Bros & King, India, Antwerp
259 bbls, Batjer & Meyerstein, Waesland, Antwerp
2,024 bbls, Dickinson Bros & King, F Mendelsohn Hamburg

CHALK PRECIP—20 cks, 9,918lb, Stallman & Fulton, Servia Liverpool

SULPH—400 cks, 453,019lb, F A Reichardt, Immacolata Marseilles

CHAMOIS—1 cs, R Young, Egypt, London
2 cs A Isaacs & Co, Egypt, London
1 cs, T L Lutkins, Servia, Liverpool
3 cs, Lebess Sponge Co, Germanic, Liverpool

CHEMICAL PREP—2 cs, C Georgi, Aller, Bremen
3 cs, C B Richard & Co, Russia, Hamburg
8 cs, R F Downing & Co, Ludgate Hill, London
44 cs, [illegible],780lb, McKesson & Robbins, Fernside, Hamburg
20 cs, J Movius & Son, Werra, Bremen
3 pgs, Lehn & Fink, Rugia, Hamburg
29 cs, L Engelhorn, Werra, Bremen
10 cs, T Weicker, East Lothian, Hamburg
10 cks, 5,084lb, G Gennert, Annie, Hamburg
11 cs, 900lb, T Weicker, Rotterdam, Rotterdam
2 cs, C B Richard & Co, Gellert, Hamburg
12 cs, W H Schieffelin & Co, Waesland, Antwerp
1 cs, W H Schieffelin & Co, Rotterdam, Rotterdam
1 ck, Lehn & Fink, Gellert, Hamburg
5 cs, L Bernard & Co, City of New York, Liverpool
4 cks, 2,323lb, Roessler & Hassiacher Chemical Co, California, Hamburg
2 cs, Eimer & Amend, Russia, Hamburg

SALTS—4 cks, 2,052lb, A Klipstein, Rugia, Hamburg
19 cs, Scott & Bowne, Servia, Liverpool
10 cks, 587lb, Pickhardt & Kuttroff, Rotterdam, Rotterdam
10 cks, 1,120lb, A Klipstein, Waesland, Antwerp
10 cs, W H Schieffelin & Co, Ludgate Hill, London

CHILLIES—19 bls, 2,016 lb, G B Morewood & Co, Ludgate Hill London

CHINA CLAY—460 tons, Mason, Chapin & Co, Von Berg, Plymouth

CINCHONIDIA—10 cs, 10,000 ozs, L Engelhorn, Werra, Bremen

CLIFFSTONE—316 tns, Sanderson & Son, Buffalo, Hull

CLOVES—100 bls, 14,000lb, E Hill's Son & Co, Egypt, London
250 bls, 35,000lb, J H Recknagel, Egypt, London
295 bls, 41,300lb, Dodge & Olcott, Egypt, London
231 bls, 30,475lb, L German, Egypt, London
100 bls, 14,000lb, G Ropes, Egypt, London
51 cs, D P Cruikshank, Merionethshire, Singapore
100 bls, 13,052lb, L German, Rotterdam, Rotterdam
STEMS—200 bls, 28,000lb, Carleton & Moffatt, Spain, London

COAL TAR PREP—1 ck, J Movius & Son, California, Hamburg
1 cs, Schulze-Berge & Koechl, Waesland, Antwerp

COLCOTHAR—18 pgs, 5,718 lb, Hemingway & Co, Ludgate Hill London

COLOCYNTH—17 cs, 2,336lb, Stallman & Fulton, Anglia, Trieste

COLORS—15 cks, L De Jonge & Co, Illinois, Antwerp
6 cks, 1 cs, C F Zentgraf, Panama, Hamburg
2 cs, J Marsching & Co, La Gascogne, Havre
47 cks, 9,591lb, J L Smith & Co, Montauk, Bristol
1 cs, 272lb, G A & E Meyer, La Gascogne, Havre
3 cs, S Ullman, Aller, Bremen
2 bbls, 3 cs, C B Richard & Co, Rugia, Hamburg
2 cs, S Ullman, Rugia, Hamburg
16 cks, American Bank Note Co, Egypt, London
2 cks, H Kohnstamm & Co, Servia, Liverpool
1 cs, E H Freidrichs, Aller, Bremen
2 cs, B Meiners, Aller, Bremen
2 cs, 300lb, J Marsching & Co, Werra, Bremen
1 c[illegible], A K Gardiner & Bro, City of New York, Liverpool
3 pgs, 857lb, A Keppelman, California, Hamburg
2 cs, Issacs, Vought & Co, Adriatic, Liverpool
4 cks, 7 cs, J M Huber, Waesland, Antwerp
5 pgs, Knauth, Nachod & Kuhne, California, Hamburg
5 cks, H Merz, California, Hamburg
10 cks, 41 cs, Pickhardt & Kuttroff, Rotterdam, Rotterdam

CORIANDER SEED—100 bgs, 22,000 lb, Stallman & Fulton, Anglia, Trieste

CORKS—10 bls, A Stephani & Co, Ludgate Hill, London
40 bls, J Vought & Co, Mareca, Antwerp
8 bls, Isaacs, Vought & Co, Rotterdam, Rotterdam

CUBEBS—6 bgs, 561lb, J [illegible]lay, Rotterdam, Rotterdam

CUDBEAR—16 cks, 8,288lb, W A Ross & Bro, Wyoming, Liverpool
4 cks credited in our last to R J Hoguet & Co should have been J Campbell & Co

CUTTLE FISH BONE—3 pgs, W H Schieffelin & Co, Anglia Trieste

DANDELION ROOT—5 bls, 1,100lb, M Zeller, Buffalo, Hull

DEXTRINE—150 bgs, 32,487lb, F Rose & Co, Fernside, Hamburg
100 cks, 22,252lb, C Morningstar & Co, California, Hamburg

DRAGON'S BLOOD—1 cs, 116lb, M Koenigsheim, Ludgate Hill London

DRUGS—5 bls, 1 cs, W H Schieffelin & Co, Rotterdam, Rotterdam

DUTCH METAL—1 cs, Perry & Ryer, Aller, Bremen
1 cs, J Marsching & Co, Aller, Bremen
2 cs, A Sartorius & Co, Werra, Bremen
1 cs, H W Ehrichs, Werra, Bremen
2 cs, K Schmidt & Co, Werra, Bremen

DYEWOOD EXTRACT—102 cs, 15,259 lb, Pickhardt & Kuttroff Rugia, Havre
4 cs, 3 cks, A Klipstein, Rugia, Havre

ERGOT—13 bls, 2,210lb, R Brueckner & Co, Fernside, Hamburg
15 bls, 1,843lb, J Clay, Rugia, Hamburg
10 cs, E R Squibb, Ludgate Hill, London

ETHER—1 cs, 44lb, R Kug & Co, Fernside, Hamburg

FENNEL SEED—31 bls, 3,932lb, Stallman & Fulton, Anglia, Bari
10 bls, 2,200lb, A L Cause, Anglia, Bari
25 bls, 5,500lb, H Nordlinger & Co, Anglia, Bari
55 bbls 12,125lb, R F Downing & Co, Anglia, Bari

FLOWE S—2 bls, W H Schieffelin & Co, Rotterdam, Rotterdam
2 bls, 706lb, J Clay, Anglia, Trieste

FRANKFORT BLACK—5 cks, C Wix & Co, Rotterdam, Rotterdam
3 cks, G W Sheldon & Co, Rotterdam, Rotterdam
6 cks, B P Ducas & Co, California, Hamburg

FULLERS EARTH—1,800 bgs, 336,000lb, Hammill & Gillespie, J Stafford, London

FUSTIC—12¼ tns, H Marquardt & Co, Yumuri, Vera Cruz
200 tns, J W Wilson & Co, Yumuri, Vera Cruz
2[illegible]5 tns, H Marquardt & Co, R A Snow, Tlacotalpan

GALLS—150 cs, F Bredt & Co, Egypt, London
28 bgs, New York Dyewood Extract & Chemical Co Wyoming, Liverpool
50 cs, Pelgram & M, Merionethshire, Shanghai

GAMBOGE—3 cs, 604lb, M Koenigsheim, Ludgate Hill, London

GELATINE—5 cks, Bogle & Scott, Oxenholme, Liverpool
15 cs, J P Smith, Egypt, London
2 cs, W Zinsser & Co, La Gascogne, Havre
10 cs, 1,100lb, C Townsend, Rugia, Havre
32 cs, 3,250lb, J Movious & Son, California

GINGER—15 bbls, Sandford & Klatte, Alvo, Kingston
18 bbls, 2,333lb, Perkins & Welsh, Alvo, Kingston
55 bbls, 9,506lb, J E Kerr & Co, Alvo, Kingston
74 bbls, E Meyers & Co, Montego Bay
7 bbls, 1,024lb, J E Kerr & Co, Alvo, Kingston
445 bgs, 56,000lb, Dorragh & Smail, Leading Wind, Alleppy

GLASS ANTIQUE—1 cs, 198lb, Belchers Mosaic Glass Co, Illinois, Antwerp
2 cs, 394lb, R Geiseler, Illinois, Antwerp
1 cs, 198lb, A Jagot, Illinois, Antwerp
35 cs, 6,409 lb, Decorative Stained Glass Co, Illinois Antwerp

CATH—5 cs, 935 ft, R Geiseler, Illinois, Antwerp
14 cs, 2,680 ft, Belchers Mosaic Glass Co, Illinois, Antwerp
6 cs, 1,045 ft, A Jagot, Illinois, Antwerp
27 cs, 13,912ft, Vanhorne, Griffen & Co, Ethiopia, Glasgow

ENAMELLED—54 cs, J F Heyne, Mareca, Antwerp
150 cs, Holbrook Bros, Waesland, Antwerp

GROUND—6 cs, J Zahn & Son, Wyoming, Liverpool

PLATE—6 cs, 1,964 ft, J Zahn & Son, Werra, Bremen
19 cs, 6,249 ft, Heroy & Marrenner, Illinois, Antwerp
2 cs, 1,392 ft, P Semmer, Wyoming, Liverpool
19 cs, 8,150 ft, Heroy & Marrenner, Wyoming, Liverpool
3 cs, Holbrook Bros, Wyoming, Liverpool
11 cs, 1,390 ft, J Fitzpatrick & Co, Wyoming, Liverpool
60 cs, 20,520lb, Heroy & Marenner, Waesland, Antwerp
50 cs, Heroy & Marenner, Waesland, Antwerp
36 cs, 10,086lb, S Bache & Co, Waesland, Antwerp
94 cs, 31,388lb, H H Cahn, Waesland, Antwerp
22 cs, 7,306lb, J Kahn, Waesland, Antwerp
8 cs, 841lb, J Zahn Germanic, Liverpool

WINDOW—1,132 cs, 51,194 lb, Dougherty, Elliot & Morris on, Illinois, Antwerp
3 570 cs, 205,590lb, Holbrook Bros, Illinois, Antwerp
91 cs, 4,550lb, S Bache & Co, Wyoming, Liverpool
76 cs, 11,418lb, T W Morris & Co, Wyoming, Liverpool
53 cs, 8,247lb, Heroy & Marrenner, Wyoming, Liverpool
108 cs, 8,640lb, J F Heyne, Waesland, Antwerp
8 9 cs, 40,450lb, D Poellman, Waesland, Antwerp
3,947 cs, 24[illegible],490lb, J Fitzpatrick & Co, Waesland, Antwerp
3,838 cs, 193,880lb, Vanborne, Griffen & Co, Waesland, Antwerp
738 cs, 42,700lb, Holbrook Bros, Waesland, Antwerp
1,750 cs, 122,570lb, T W Morris & Co, Waesland, Antwerp
50 cs, 5,510lb, Heroy & Marrenner, Waesland, Antwerp
1,13[illegible] cs, 62,480lb, J Kahn, Westernland, Antwerp

GLAUBER SALTS—8 cks, C Georgi, Maasdam, Rotterdam

GLUE—60 bgs, 6,72[illegible]lb, A K Gardiner & Bro, City of Chicago Liverpool
19 cks, 39,255lb, B W Jones, Buffalo, Hull
200 bgs, 22,400lb, A K Gardiner & Bro, City of New York, Liverpool

PASTE— cks, 8,431lb, Schulze-Berge & Koechl, Wyoming Liverpool

GLYCERINE CRUDE—50 dms, 52,900lb, Marx & Rawolle, Illinois, Antwerp
48 dms, 52,345lb, Marx & Rawolle, Rugia, Havre
4 dms, 5,508lb, A E Reimann, Egypt, London
107 dms, 116,231lb, J E Schweizer & Co, Rotterdam Rotterdam

GOLD SIZE—4 cs, T Riessner, La Gascogne, Havre
57 pgs, 1,215 gls, Pomeroy & Fischer, Egypt, London

GRAPE SUGAR—200 cs, 22,000lb, V Loewi, California, Hamburg

GUM—3 cks, 3,659lb, W A Pfingsthorn, California, Hamburg

GUM ANIMI—2 cs, W H Scheel, Egypt, London

ARABIC—33 cs, 4,976lb, Thurston & Braidich, City of Chicago, Liverpool
25 cs, 7,867lb, J Zipcy, Anglia, Trieste
100 cs, 16,800lb, Thurston & Braidich, City of New York Liverpool
6 cks, Pickhardt & Kuttroff, Rotterdam, Rotterdam

BENJAMIN—20 cs, 1,744lb, Stallman & Fulton, Merionshire, Singapore

CHICLE—121 bgs, 21,162lb, J W Wilson & Co, Yumuri Tuxpan
37 bgs, 8,501lb, L Monjo, Jr, & Co, Yumuri, Tuxpan
41 bls, 6,670lb, W T White, Yumuri, Tuxpan

COPAL—12 cs, 4 bbls, 4,186lb, W H Scheel, Egypt, London
106 cs, 21,860lb, E Hill's Son & Co, Egypt, London

DAMAR—22 cs, 45 bskts, 13,552lb, Walker Gum Co, Rotterdam, Rotterdam

MYRRH—11 cs, 15 bls, 5,585lb, M Koenigsheim, Ludgate Hill, London

OLIBANUM—21 cs, 5,337lb, Thurston & Braidich, Egyp London

SANDRAC—9 cks, Rogers & Pyatt, Egypt, London

SENEGAL—10 bls, 2,300lb, D E Green, Servia, Liverpool

TRAGACANTH—22 bgs, 6,261lb, Thurston & Braidich City of Chicago, Liverpool

GYPSUM—38 bbls, 22,522lb, J L & D S Riker, City of Chicago Liverpool
100 cks, 81,944lb, G A & E Meyer, Iago, Newcastle
38 cks, 22,643lb, J L & D S Riker, Servia, Liverpool
100 cks, 79,954lb, G A & E Meyer, Wyoming, Liverpool
100 cks, 80,102lb, G A & E Meyer, Germanic, Liverpool
38 cks, 22,900lb, J L & D S Riker, Germanic, Liverpool

HEMATINE POWDER—25 cs, 2,750lb, Sykes & Street, Gallia Liverpool

INDIGO—10 cs, 2,697lb, Bliss, Fabyan & Co, Big Bonanza, Calcutta
36 cs, 9,251lb, Amoskeag Mfg Co, Big Bonanza, Calcutta
161 cs, Howe, Balch & Co, Big Bonanza, Calcutta
31 cs, A L Green & Co, Glenericht, Calcutta
62 cs, 15,318lb, Whitney Bros & Co, Big Bonanza, Calcutta

CARMINE—3 cks, Pickhardt & Kuttroff, Aller, Bremen

EXTRACT—10 cks, 6,780lb, J C Bloomfield & Co, City of Chicago, Liverpool
5 cks, 6,042lb, Banning, Bissell & Co, Servia, Liverpoo

INSECT FLOWERS—4 bls, 2,250lb, G Neustadt, Anglia, Trieste
6 bls, 2,501lb, Lazell, Dailey & Co, Anglia, Trieste
25 bls, 11,530lb, Stallman & Fulton, Anglia, Trieste
15 bls, 6,673lb, M Koenigsheim, Anglia, Trieste
14 bls, Fischer & Ewald, Anglia, Trieste
55 bls, 24,207lb, Thurston & Braidich, Anglia, Trieste

POWDER—40 kgs, 4,928lb, J Zipcy, Anglia, Trieste
28 bbls, E Deutsch, Anglia, Trieste
16 cs, A L Causse, Anglia, Trieste

IODINE—115 bbls, 23,222lb, Watjen, Toel & Co, Colon, Colon

IRON OXIDE—4 bbls, 1,394lb, Hemingway & Co, Ludgate Hill London
100 bbls, 33,600lb, Binney, Delmar & Co, Germanic, Liverpool

LIQUOR—1 ck, Lehn & Fink, Rugia, Hamburg

JALAP—81 mats, 8 319lb, Graham, Hinkle & Co, Yumuri, Vera Cruz
9 bgs, 1,499lb, J W Wilson & Co, Yumuri, Vera Cruz

KAOLIN—30 cks, 38,480lb, C F Zentgraf, California, Hamburg

KIESERIT—112,050lb, Heller, Hirsh & Co, J Stafford, London

LAUREL LEAVES—25 bls, 11,301lb, Rosenstein Bros, Anglia Trieste

LEAD—3,832 pigs, G W Sheldon & Co, Egypt, London

LEAVES—10 bls, 2,200lb, R Brueckner & Co, Anglia, Fiume
8 bls, J Clay, Buffalo, Hull
13 bls, Peek & Velsor, Anglia, Trieste

LEECHES—4 cs, H Witte, La Gascogne, Havre
2 cs, A Mayer, La Gascogne, Havre

LEMON JUICE—10 pgs, 1,332 gls, W R Peters & Co, Devonshire Messina

LICORICE ROOT—2,506 bls, Stamford Mfg Co, Heribea, Batoum

LIME ARSEN—132 cks, 547 kgs, 66,549lb, Hemingway & Co Ludgate Hill, London

LINSEED—1,490 bgs, 4,371 bu, Ralli Bros, Ludgate Hill, London
5,000 bgs, 20,000 bu, Preston & Co, Big Bonanza, Calcutta
595 bgs, 1,740 bu, Atlantic White Lead & Linseed Oil Co, Ludgate Hill, London
2,502 bgs, 9,383 bu, Howe, Balch & Co, Big Bonanza Calcutta

LIPANIN—1 cs, Lehn & Fink, Gellert, Hamburg

LOGWOOD—295 tns, T H Messenger & Co, M Abbott, Miragoane

EXT—3 cks, 1,370lb, J J Keller & Co, Waesland, Antwerp

ROOT—269 tns, J E Kerr & Co, Heien, Pt Maria

MACE—50 cs, 3,333lb, J H Recknagel, Merionethshire, Singapore

MADDER—5 cks, 6,091lb, A De Ronde & Co, Rotterdam, Amsterdam
5 cks, 6,371lb, Stamford Mfg Co, Rotterdam, Amsterdam
5 cks, 5,882lb, D Innes & Co, Rotterdam, Amsterdam

MAGNESIA CARB—33 pgs, 2,250 lb, W H Schieffelin & Co Waesland, Antwerp

SULPH—30 bbls, 9,747lb, W Steele, Oxenholme, Liverpool

MALT EXTRACT—22 cks, Tarrant & Co, Rugia, Hamburg
2,000 cs, Eisner & Mendelson Co, Italia, Hamburg

MANURE SALTS—1,000 bgs, 223,760lb, H J Baker & Bro, Fernside, Hamburg
1,500 bgs, 335,280lb, H J Baker & Bro, Sorrento, Hamburg
1,500 bgs, 335,280lb, W R Peters & Co, Sorrento, Hamburg
1,000 bgs, 224,028lb, Heller, Hirsh & Co, Sorrento, Hamburg
1,500 bgs, 336,045lb, Heller, Hirsh & Co, Fernside, Hamburg
2,000 bgs, 448,000lb, W R Peters & Co, California, Hamburg
500 bgs, 111,760lb, H J Baker & Bro, California, Hamburg

MANNA—10 cs, 512lb, Lazell, Dailey & Co, Devonshire, Palermo

MILK SUGAR—11 cks, 6,600lb, R Brueckner & Co, La Gascogne Havre

MINERAL WAX—60 pgs, 14,026lb, Okonite Co, Ludgate Hill London
1 lot, 15 bgs, 22,000lb, Knauth, Nachod & Kuhne, Sorrento, Hamburg
162 bgs, 21,989lb, F G Strohmeyer & Co, Anglia, Trieste
60 cs, 15,796lb, Knauth, Nachod & Kuhne, Anglia Trieste

Aniline Salts.
Oxalic Acid.
Chlorate of Potash.
Zinc Dust. Indigo Auxiliary.
Blood and Egg ALBUMEN.
Aniline Colors.

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Carbonate of Ammonia.
SALICYLIC ACID.
Archil Extract.
Indigo Extract.
Alizarine.

MUSTARD MEAL—27 pgs, 11,200lb, Max Ams, Egypt, London
SEED—300 bgs, 64,910lb, Thurber, Whyland & Co, Urbino Palermo
NAPHTHALINE—11 cks, 4,612lb, McKesson & Robbins, J Stafford, London
NETTLE FLOWERS—1 cs, 376lb, M Zeller, Buffalo, Hull
NUTMEGS—64 cs, 8,512lb, R Crooks & Co, Egypt, Liverpool
21 cs, 3,154lb, L German, Mareca, Antwerp
246 cs, 15,694lb, Bidwell & French, Merionethshire, Singapore
36 cs, 4,688lb, R Crooks & Co, Merionethshire, Singapore
NUX VOMICA—1,311 bgs, 183,540 lb, Darragh & Smail, Leading Wind, Alleppey
OCHER—300 cks, 141,628lb, F A Reichardt, Immacolata, Marseilles
OIL ALMOND—37 cs, C Morningstar & Co, La Gascogne, Havre
3 bbls, 719lb, Leibman & Butler, La Gascogne, Havre
AMBER—1 cs, 50lb, Lehn & Fink, Russia, Hamburg
2 cs, Fritzsche Bros, Aller, Bremen
AMBRETTE—1 cs, 11lb, Leibman & Butler, La Gascogne Havre
BERGAMOT—10 cs, 223lb, Lanman & Kemp, Urbino, Messina
10 cs, 256lb, Maas & Waldstein, Urbino, Messina
14 cs, 350lb, Tyler & Finch, Urbino, Messina
1 cs, 25lb, C Morningstar & Co, Urbino, Messina
CARAWAY—1 cs, 25lb, Lehn & Fink, Russia, Hamburg
2 cs, 100lb, G Lueders, Werra, Bremen
CARMODY—2 cs, 200lb, G Lueders, Werra, Bremen
CLOVE—4 cs, 200lb, G Lueders, Werra, Bremen
COCOANUT—145 pps, 6 pun, 39 hhds, 334,648 lb, Darragh & Smail, Leading Wind, Colombo
51 pps, 427 hhds, 336,392 lb, Darragh & Smail, Leading Wind, Alleppey
CODLIVER—25 bbls, 750 gls, Lazell, Dalley & Co, Fernside Hamburg
25 bbls, 750 gls, F Paulsen & Co, Buffalo, Hull
200 bbls, 6,000 gls, Scott & Bowne, Buffalo, Hull
15 bbls, 450 gls, M Zeller, Buffalo, Hull
10 bbls, 250 gls, H A Helvig, Buffalo, Hull
ESSENTIAL—1 cs, Dodge & Olcott, Rugia, Havre
1 cs, J Clay, Denmark, London
12 cs, 500lb, H Garbe, Merionethshire, Singapore
6 cs, 355lb, G Lueders, Werra, Bremen
GERANIUM—1 cs, 85lb, Leibman & Butler, La Gascogne Havre
JUNIPER—1 cs, 50lb, Lehn & Fink, Russia, Hamburg
LEMON—81 cs, Fritzsche Bros, Aller, Bsemen
1 cs, A Stephani & Co, Ludgate Hill, London
50 cs, 1,150lb, Brandt & Kienzler, Urdino, Messina
25 cs, 625lb, L & J Michaelis, Urbino, Messina
10 cs, 250lb, Maas & Waldstein, Urbino, Messina
25 cs, 625lb, Tyler & Finch, Urbino, Messina
2 cs, 50lb, C Morningstar & Co, Urbino, Messina
25 cs, 625lb, Brandt & Kienzler, Devonshire, Messina
25 cs, 625lb, W H Schieffelin & Co, Devonshire, Messina
LEMONGRASS—200 cs, Darragh & Smail, Leading Wind Alleppey
LIMES—1 cs, 11lb, Liebman & Butler, LaGascogne, Havre
LINSEED—4 cks, 216 gls, S Ullman, Rugia, Hamburg
NEROLI—2 cs, Dodge & Olcott, Rugia, Havre
OLIVE—32 bbls, W C Benedict, Wyoming, Liverpool
4 cks, G Milazzo, Devonshire, Palermo
4 bbls, 1,050lb, D Wegman, Elysia, Trieste
ORANGE—10 cs, 250lb, L & J Michaelis, Urbino, Messina
4 cs, 100lb, Tyler & Finch, Urbino, Messina
1 cs, 25lb, C Morningstar & Co, Urbino, Messina
15 cs, 375lb, L Bernard & Co, Devonshire, Messina
5 cs, 125lb, W H Schieffelin & Co, Devonshire, Messina
ORRIS—1 cs, 7lb, Liebman & Butler, La Gascogne, Havre
PATCHOULY—1 cs, 5lb, Liebman & Butler, La Gascogne, Havre
POPPY—6 bbls, 2,889lb, G A & E Meyer, La Gascogne, Havre
ROSE—3 cs, Dodge & Olcott, Servia, Liverpool
ROSEWOOD—1 cs, L Bernard & Co, La Gascogne, Havre
SANDAL—1 cs, Fritzsche Bros, Aller, Bremen
SEAL—40 cks, 3,685lb, J Major & Son, Coastwise, Halifax
SYRINGA—1 cs, L Bernard & Co, LaGascogne, Havre
THYME—1 cs, 25lb, G Lueders, Werra, Bremen
ORANGE LEAD—15 cks, 26,710lb, F A Reichardt, Rugia, Hamburg
5 cks, 4,107lb, Pfeiffer & Lavanburg, Mareca, Antwerp
PEEL—8 bls, 3,338lb, R Hilliers Son & Co, Urbino, Palermo
ORRIS ROOT—60 bgs, 11,066lb, L Bernard & Co, Urbino, Messina
PAINT—12 dms, 1,502lb, W W Hurlburt & Co, Buffalo, Hull
42 cks, 25,116lb, O W Buck, Egypt, Lonkon
PEPPER BLACK—416 bgs, 52,346lb, Core & Herbert, Egypt, London
488 bgs, 63,196lb, J H Recknagel, Egypt, London
671 bgs, 82,951lb, G B Morewood & Co, Egypt, London
400 bgs, 51,727lb, J H Recknagel, Ludgate Hill, London
161 bgs, 21,778lb, G B Morewood & Co, Ludgate Hill, London
366 bgs, 55,650lb, Bidwell & French, Merionethshire, Liverpool
374 bgs, R Crooks & Co, Merionethshire, Singapore
SHELLS—200 bgs, 34,362lb, Core & Herbert, Egypt, London
WHITE—25 bgs, 4,098lb, Core & Herbert, Egypt, London
141 bgs, 20,759lb, J W Rulon & Son, Egypt, London
PERFUME—4 cs, 63 gls, McKesson & Robbins, Rugia, Havre
27 cs, 228 gls, Park & Tilford, La Gascogne, Havre
4 cs, 4 gls, M Meyer, La Gascogne, Havre
14 cs, 125 gls, Hall & Ruckel, La Gascogne, Havre
7 cs, F R Arnold & Co, Egypt, London
PERSIAN BERRY EXTRACT—20 cks, Schulze-Berge & Koechl, Waesland, Antwerp
PHOSPHATE EARTH—200 tons, Leaycraft & Co, W B Potter Grand Cayman
PHOSPHORUS—150 cs, 16,537lb, A Hodge & Co, Buffalo, Hull
PIMENTO—52 bgs, 7,559lb, Perkins & Welsh, Alvo, Kingston
PINK LAKE—3 cks, 1,320lb, A Klipstein, Waesland, Antwerp
PITCH—48 bbls, 17,935lb, R F Downing & Co, Anglia, Trieste
PLUMBAGO—756 bbls, 451,974lb, Darragh & Smail, Leading Wind, Alleppey
POMADE—8 cs, 892lb, Liebman & Butler, La Gascogne, Havre
POPPY MEAL—20 bgs, 3,750lb, F E McAllister, Panama, Hamburg
SEED—50 bgs, 5,500lb, L German, Rotterdam, Rotterdam
POTASH CARB—8 cks, A Klipstein, Illinois, Antwerp
15 cks, 11,767lb, A Klipstein, Waesland, Antwerp
40 cks, 42,000lb, C Lennig, Waesland, Antwerp
CHLO—5 bbls, 1,120lb, R F Downing & Co, Ludgate Hill, London
200 kgs, 22,400lb, Davis, Wolt & Co, Montauk, Bristol
35 kgs, 3,920lb, Roessler & Hasslacher Chemical Co California, Hamburg
MURI—1,500 bgs, 336,017lb, Heller, Hirsch & Co, Sorrento Hamburg
1,000 bgs, 224,986lb, H H Salmon & Co, Sorrento, Hamburg
2,000 bgs, 447,972lb, H H Salmon & Co, California, Hamburg
1,000 bgs, 223,985lb, Battelle & Renwick, California Hamburg
2,500 bgs, 600,000lb, H H Salmon & Co, Geilert, Hamburg
NITRATE—1 cs, 55lb, McKesson & Robbins, Fernside, Hamburg
PRUSS—14 cs, 7,000lb, C De P Field, State of Nebraska, Glasgow
PUMICE—46 bgs, V Bonanno, Urbino, Messina
4 cks, T Van Amringe, Devonshire, Messina
QUICKSILVER—300 flks, J H Taft & Co, Ludgate Hill, London
200 flks, Sondheim, Alsberg & Co, Ludgate Hill, London
100 flks, Pfeiffer & Lavanburg, Ludgate Hill, London
QUININE—10 cs, 10,000lb, L E gelhorn, Ludgate Hill, London
40 cs, 10,000 ozs, L Engelhorn, Aller, Bremen
6 cs, 6,000 ozs, L Engelhorn, Werra, Bremen
42 cs, 22,000 ozs, J L & D S Riker, Geilert, Hamburg
20 cs, 10,000 ozs, S F Gibbons, Geilert, Hamburg
5 cs, 5,000 ozs, Stallman & Fulton, Devonshire, Palermo
RED LEAD—10 cks, 16,861lb, Wing & Evans, Germanic, Liverpool
RHUBARB—9 cs, J Clay, Egypt, London
ROOTS—128 bgs, 22,330lb, Stamford Mfg Co, Anglia, Trieste
14 bls, 3,300lb, J Clay, Anglia, Trieste
33 bls, J Clay, Buffalo, Hull
SAGE—68 bs, 26,351lb, R Brueckner & Co, Anglia, Fiume
LEAVES—55 bls, 13,824lb, R Brueckner & Co, Anglia, Fiume
SARSAPARILLA—110 bls, 17,811lb, Eggers & Heinlein, Carib, Truxillo
14 bls, 1,720lb, Leaycraft & Co, Aguan, Truxillo
SEED—4 cs, Dodge & Olcott, Egypt, London
SENNA—12 bls, W H Schieffelin & Co, Anglia, Trieste
6 bls, 2,450lb, Lazell, Dalley & Co, Anglia, Trieste
SHELLAC—218 cs, Rogers & Pyatt, Egypt, London
254 cs, E Hill's Son & Co, Ethiopia, Glasgow
100 as, L C King & Co, Big Bonanza, Caciutta
45 cs, Howe & French, Ethiopia, Glasgow
82 cs, Rogers & Pyatt, Ethiopia, Glasgow
SIENNA—2 cks, 441lb, A Keppelman, California, Hamburg
26 cks, 18,279lb, G W Sheldon & Co, Rotterdam, Rotterdam
21 cks, 8,003lb, R F Downing & Co, F Mendelsohn Hamburg
SOAP BARK—2 bls, 1,023lb, Elmer & Amend, Russia, Hamburg
CASTILE—150 cs, 8,133 lb, Liebman & Butler, Urbino Palermo
STOCK—100 bbls, Leber & Bernhard, Sir W Armstrong Palermo
SODA ASH—107 cks, 225,078lb, J L & D S Riker, City of Chicago, Liverpool
5 cks, 12,271lb, B P Ducas & Co, City of Chicago, Liverpool
94 cks, 112,189lb, Sondheim, Alsberg & Co, Iago, Newcastle
178 cks, 338,648lb, E Hill's Son & Co, Iago, Newcastle
141 cks, 225,266lb, Warren & Co, Servia, Liverpool
92 cks, 112,800lb, H Merz, Iago, Newcastle
168 tcs, 224,707lb, Linder & Meyer, City of New York, Liverpool
43 cks, 56,076lb, Wing & Evans, Germanic, Liverpool
119 cks, 145,701lb, J Lee & Co, Critic, Newcastle
CARB—140 bbls 56,000lb, J L & D S Riker, Servia, Liverpool
140 bbls, 56,000lb, J L & D S Rike, Gallia, Liverpool
CAUSTIC—200 dms, 131,732lb, J Lee & Co, Wyoming, Liverpool
400 dms, 258,393lb, J Lee & Co, Germanic, Liverpool
245 dms, 159,250lb, Wing & Evans, Critic, Newcastle
NAPTHIONATE—22 cks, 9,853lb, Alpers & Mott, Waesland, Antwerp
PHOS—20 cks, A Klipstein, Ethiopia, Glasgow
SAL—750 cks, 336,000lb, R Crooks & Co, Critic, Newcastle
SULPH—2 cks, C Georgi, Aller, Bremen
SPONGE—5 bgs, G P Lecas, Letimbro, Palermo
9 bls, Lebess Sponge Co, Urbino, Messina
15 bgs, J Papadopolo, Cienfuegos, Nassau
32 bls, A Isaacs & Co, Cienfuegos, Nassau
45 bls, McKesson & Robbins, Cienfuegos, Nassau
82 bls, Lasker & Bernstein, Cienfuegos, Nassau
63 bls, Lebess Sponge Co, Cienfuegos, Nassau
ST JOHNS BREAD—3 cks, W H Schieffelin & Co, Anglia, Trieste
210 bgs, 46,011lb, Levy & Levis, Anglia, Trieste
STRYAX LIQUID—10 cs, 873lb, Lazell, Dalley & Co, Anglia, Trieste
STRONTIA—21 bbls, 48 kgs, T Weicker, East Lothian, Hamburg
NITRATE—10 cks, 2,300lb, Gabriel & Schall, Waesland Antwerp
SULPHUR PRECIP—3 cks, 1,617lb, Marx & Rawolle, Egypt London
SUMAC—710 bgs, 114,264lb, Phelps Bros & Co, Letimbro, Palermo
280 bgs, 44,753lb, Leber & Bernhard, Sir W Armstrong Palermo
EXTRACT—25 cks, 12,656lb, J J Keller & Co, Waesland Antwerp
LEAVES—30 bls, Neumark & Gross, Sir W Armstrong, Palermo
109 bls, 55186lb, W J Matheson & Co, Sir W Armstrong, Palermo
100 bls, J Mercadente, Sir W Armstrong, Palermo
TAPIOCA—622 bgs, 96,071lb, Levy & Lewis, Egypt, London
TERRA ALBA—170 cks, 60,854lb, Hammill & Gillespie, Buffalo Hull
ULTRAMARINE—28 cks, 15,000 lb, H Merz, Waesland, Antwerp
5 pgs, 2,100lb, J M Huber, Waesland, Antwerp
2 cks, 937 lb, Knauth, Nachod & Kuhne, California Hamburg
UMBER—1 cs, 220lb, G A & E Meyer, La Gascogne, Havre
2 cs, 474lb, Isaacs, Vought & Co, California, Hamburg
VANDYKE BROWN—5 cks, G W Sheldon & Co, Rotterdam Rotterdam
VANILLA BEANS—38 cs, 5,144lb, J W Wilson & Co Yumuri Vera Cruz
63 cs, 9,969lb, P Harmony's Nephew & Co, Yumuri Vera Cruz
18 cs, Dodge & Olcott. Yumuri, Vera Cruz
2 cs, 218 lb, P Harmony's Nephew & Co, La Gascogne Havre
VENETIAN RED—25 kgs, 3,200lb, Hemingway & Co, Ludgate Hill, London
100 bbls, 33,600lb, J R Waddell & Co, Buffalo, Hull
300 bbls, 120,000lb, E Hill's Son & Co, Iago, Newcastle
VENICE TURP—8 bbls, 15 cs, W H Schieffelin & Co, Anglia Trieste
3 cs, 525lb, J Clay, Anglia, Trieste
VERMILION—3 cks, R F Downing & Co, Egypt, London
1 ck, Toch Bros, Egypt, London
VERMILIONETTE—8 kgs, 1,401lb, Hemingway & Co, Ludgate Hill, London
WHITE LEAD—5 cks, 100 kgs, 16,450lb, J L Smith & Co, Ludgate Hill, London
1 cs, 116 lb, Isaacs, Vought & Co, California, Hamburg
ZINC OXIDE—400 bbls, 88,484lb, G A & E Meyer, Illinois, Antwerp
150 bbls, 33,069lb, G A & E Meyer, Mareca, Antwerp
100 bbls, 22,046 lb, G A & E Meyer, Waesland, Antwerp
ZINC OXIDE—200 cks, 44,092lb, Pickhardt & Kuttroff, Rotterdam, Rotterdam

—o—

WAREHOUSED.

ANILINE COLORS—90 cks, 39 cs, Pickhardt & Kuttroff, Maasdam, Rotterdam
128 cks, 56 cs, Pickhardt & Kuttroff, Rotterdam, Rotterdam
17 cs, E Schibach & Co, Waeeland, Antwerp
10 cks, Hensel, Bruckman & Lorbacher, Waesland Antwerp
BARYTES NIT—10 kgs, 1,120lb, R F Downing & Co, Ludgate Hill, London
CALOMEL—1 pg, 224lb, R F Downing & Co, Ludgate Hill, London
CASTOR SEED—1,003 bgs, 3,229 bu, Occidental Oil Co, Ludgate Hill, London
CHEMICAL PREP—20 cks Pickhardt & Kuttroff, La Gascogne Havre
CHINA CLAY—190 tons, Mason Chapin & Co, Van Berg, Fowey
COCAINE—1 cs, 40lb, G Amsinck & Co, Colon, Colon
CORKS—16 bls, Colgan & Co, Denmark, London
10 bls, J Sabater, Olympia, Marseilles
5 bls, Truslow & Co, Aller, Bremen
GELATINE—20 cs, 2,000lb, A L Causse, Anglia, Fiume
GLASS WINDOW—1,392 cs, 77,700lb, Thorne & Rogers, Illinois Antwerp
INDIGO CARMINE—5 cks, 500lb, Pickhardt & Kuttroff, Maasdam, Rotterdam
LEAD NITRATE—2 kgs, 489lb, R F Downing & Co, Ludgate Hill, London
MENTHOL—2 cs, C Rockhill, Merionethshire, Yokohama
OCHER—20 cks, 18,162lb, Gabriel & Schall, Sorrento, Hamburg
OIL CASTOR—160 cs, 3,516 gls, Foster Duffee & Co, Gienericht Calcutta
CODLIVER—15 cs, E Fougera & Co, Egypt, London
ESSENTIAL—7 cs, Dodge & Olcott, Servia, Liverpool
ORANGE LEAD—30 cks, 23,097lb, Pickhardt & Kuttroff, Maasdam, Rotterdam
45 cks, 32,298lb, J M Huber, Mareca, Antwerp
POTASH BICH—20 cks, 18,517lb, J L & D S Riker, State of Georgia, Glasgow
CAUSTIC—25 cyls, 14,099 lb, E Hill's Son & Co, Waesland Antwerp
CHLORATE—50 kgs, 5,600lb, C De P Field, Montauk, Bristol
100 kgs, 11,200lb, J L & D S Riker, City of Chicago Glasgow
34 cks, 15,731lb, Pickhardt & Kuttroff, Maasdam, Rotterdam
SOAP CASTILE—220 cs, 8,812lb, Liebman & Butler, Urbino Palermo

☞ NEW SHIPMENTS JUST IN. ☜

Cum Opium,
Benzoic Acid,
Lycopodium,
Naphthalene,
Cocaine,

Potassium Per-Manganate,
Potassium Bicarbonate,
Glycyrrhizin Ammoniated,
Creasotes, Resorcin,
Atropia, etc.

E. MERCK, 73 William St., New York.

This style of bottle adopted for American market in **1869.**

LATEST AWARDS TO MANUFACTURER.

SILVER MEDAL. BRONZE MEDAL.

MELBOURNE, AUS., 1889. HAMBURG, 1889.

Awarded to LEOPOLD HOFF, Hamburg,

FOR THE QUALITY AND EXCELLENCE OF HIS MALT EXTRACT.

The only Malt Extract ever receiving a prize of honor at an Exhibition in the German Empire

This Preparation can only be obtained in the United States under label of

HOFF'S MALT EXTRACT—"TARRANT'S"

THE ORIGINAL. Introduced into the U. S. by Leopold Hoff, **1866.**

THE IMPORTED. Imported by Tarrant & Co., per S.S. Hamburg-Am. Packet Co., since **1869.**

THE GENUINE. Manufactured to-day in the same factory and by the same party as in **1866.**

Is invariably put up in the special green bottle as per cut; it has a German caution label printed in red on the back of each bottle and is never sold in the U. S. in any other style of package.

CAUTION.

Beware of the Substitute Malt Extract put up in a squatty bottle with the names "Johann Hoff" and "Moritz Eisner" on neck. This new firm trading under the name "Johann Hoff," for which the Eisner & Mendelson Co. are agents, were in June, 1889, found

Guilty Of publishing a Fictitious Court Decision; Of uttering a False Affidavit by the **Guilty**

Berlin Court, the Prussian Royal Landsgericht,

For the purpose of extending the sales of their substitute preparation.

What confidence can be placed in statements made by a firm found guilty of such practices.

TARRANT & CO.

Sole Agents and Importers

278, 280, 282 Greenwich Street,

NEW YORK.

ESTABLISHED 1834.

SODA BICHRO—38 cks, 18,108lb, J L & D S Riker, Servia, Liverpool
CAUSTIC—100 dms, 65,000lb, Wing & Evans, Critic, Newcastle
SPONGE—38 bls, Lebess Sponge Co, Cienfuegos, Nassau
STRONTIA CARB—3 cks, 923lb, R F Downing & Co, Ludgate Hill, London
SULPH—2 cks, 621lb, R F Downing & Co, Ludgate Hill London
ULTRAMARINE—40 cks, 18,475lb, Pickhardt & Kuttroff, Maasdam, Rotterdam
ZINC OXIDE—50 cks, 11,023lb, L Windmuller & Rolker, Maasdam, Rotterdam

IMPORTS AT BALTIMORE.

For week ending May 15.

CEMENT—4,000 bbls, Rialto, Antwerp
500 bbls, Russia, Hamburg
CHEMICALS—122 bbls, Alexander Elder, Liverpool
CUTCH—280 cs, Russia, Hamburg
GLASS PLATE—5 cs, Rhein, Bremen
WINDOW—295 cs, Rialto, Antwerp
DRUGS—1 cs, Russia, Hamburg
KEISERIT—250 tons, A L Thomsen, Russia, Hamburg
MANURE SALTS—1,000 bgs, Rhein, Bremen
OIL OLIVE—3 cs, Alexander Elder, Liverpool
6 bbls, Chioggia, Genoa
POTASH MURI—1,000 bgs, Russia, Hamburg
PUMICE—15 cks, Chioggia, Genoa
ROOTS—1 cs, Russia, Hamburg
SALT CAKE—441 cks, Alexander Elder, Liverpool
SODA ASH—315 cks, Alexander Elder, Liverpool
180 tcs, Alexander Elder, Liverpool
395 cks, Wing & Evans, Carthagenian, Liverpool
95 cks, J Lee & Co, Colina, Glasgow
VANILLA—1 cs, Rhein, Bremen

IMPORTS AT BOSTON.

Week ending May 17.

ACID BORACIC—6 cks, order, Monkseaton, Antwerp
OXALIC—30 cks, order, Monkseaton, Antwerp
ALUM—27 cks, order, Monkseaton, Antwerp
ANTIMONY—10 cks, Phelps, Dodge & Co, Borderer, London
BLEACH—166 cks, Baring Bros & Co, Istrian, Liverpool
50 cks, T D Whitney & Co, Istrian, Liverpool
360 cks, order, Istrian, Liverpool
195 tcs, order, Istrian, Liverpool
CEMENT—1,250 bbls, order, Borderer, London
300 cks, order, Borderer, London
500 cks, A Young & Co, Stockholm City, London
800 cks, order, Stockholm City, London
CLOVES—102 bls, order, Borderer, London
CUDBEAR—1 ck, J D Lewis, Stockholm City, London
DYEWOOD EXT—5 cks, order, Borderer, London
1 cks, Brown Bros, Istrian, Liverpool
GINGER—200 bgs, Baring Bros, Borderer, London
GLASS PLATE—33 cs, order, Monkseaton, Antwerp
3 cs, Hills, Turner & Co, Istrian, Liverpool
WINDOW—12,886 cs, order, Monkseaton, Antwerp
184 cs, order, Istrian, Liverpool
GREASE—1,067 cks, order, Monkseaton, Antwerp
100 bbls, order, Monkseaton, Antwerp
60 cks, G H Leonard & Co, Stockholm City, London
91 cks, order, Stockholm City, London
INDIGO—50 pgs, E E Rice & Co, Borderer, London
1 cs, order, Borderer, London
35 pgs, E E Rice & Co, Stockholm City, London
MADDER—10 cks, order, Monkseaton, Antwerp
OIL ALMOND—2 cs, West & Jenney, Borderer, London
CASTOR—2 cs, West & Jenney, Bosderer, London
OLIVE—1 cks, order, Napier, Palermo
50 bbls, order, Borderer, London
12 cs, order, Dodona, Sorrento
1 ck, 2,453 cs, order, Dodona, Leghorn
50 pgs, order, Dodona, Leghorn
POTASH CHLO—24 cks, order, Monkseaton, Antwerp
POTATO STARCH—300 bgs, order, Stockholm City, London
SHELLAC—5 cs, Merrill, Dexter & Co, Stockholm City, London
SIENNA—10 cks, order, Dodona, Leghorn
SOAP CASTILE—25 cs, order, Dodona, Leghorn
270 cs, order, Dodona, Leghorn
SODA ASH—58 tcs, Baring Bros & Co, Istrian, Liverpool
210 tcs, order, Istrian, Liverpool
1,040 bgs, Linder & Meyer, Pavonia, Liverpool
BICARB—100 cks, Linder & Meyer, Istrian, Liverpool
SUMAC—1,450 bgs, order, Napier, Palverno
VARNISH—3 cs, Woods Bros, Borderer, London
1 cs, order, Borderer, London
WHITE LEAD—64 cs, order, Borderer London
ZINC OXIDE—100 bbls, order, Monkseaton, Antwerp

IMPORTS AT NEW ORLEANS.

For week ending May 16.

ARSENIC—25 kgs, Australia, Hamburg
CEMENT—1,120 cks, Australia, Hambrg
COCA SEED—2 bgs, Adria, Bocas del Toro
SARSAPARILLA—10 bbls, Adria, Bocas del Toro

IMPORTS AT SAN FRANCISCO.

Week ending May 7, 1890.

OIL SEAL—592 bbls, Umatilla, Alaska

IMPORTS AT PHILADELPHIA.

Week ending May 17.

ACID BENZOIC—4 cs, Rosengarten & Son, Maine, London
AMMONIA—10 cks, Brown Bros, British Princess, Liverpool
BARK—87 bls, Powers & Weightman, Maine, London
BISMUTH—2 cs, Rosengarten & Sons, Maine, London
BLEACH—117 cks, Churchman & Co, British Princess, Liverpool
BONES—414 tons, order, Tre Guiseppe, Tripoli
CEMENT—500 cks, French, Richards & Co, Maine, London
1,000 cks, E Thiele, Maine, London
1,000 cks, James Brand, Maine, London
500 cks, Paul A Davis, Jr, Maine, London
4 cs, Strong & Green, British Princess, Liverpool
500 cks, A R McHenry, Bretwalda, Newcastle
CHALK—10 cks, Powers & Weightman, Maine, London
CHEMICAL PREP—61 cs, J Wyeth & Bro, Maine, London
COLORS—1 cs, F Weber & Co, British Princess, Liverpool
CREOSOTE SALTS—134 cks, H R Schultz, Maine, London
GAMBIER—414 bls, J M Sharpless & Co, Maine, London
HYDROGEN PEROXIDE—1 ck, H R Shultz, Maine, London
INDIGO—1 cs, Brown Bros, Maine, London
INSECT POWDER—125 bbls, W S Grant, British Princess, Liverpool
LIME—10 cks, Powers & Weightman, Maine, London
MANGANESE—125 tons, Earn S S Co Limited, Earnwell, St Jago
OIL COD LIVER—20 bbls, Robt S hoemaker & Co, British Princess, Liverpool
OPIUM—8 cs, order, British Princess, Liverpool
15 cs, order, British Princess, Liverpool
166 cs, Powers & Weightman, British Princess, Liverpool
10 cs, Drexel & Co, British Princess, Liverpool
PHOSPHATE ROCK—740 tons, Keptone Chemical Co, J A Garfield, Conetable Island
POTASH CHLO—100 kgs, A Klipstein, British Princess, Liverpool
SODA ASH—128 tcs, order, British Princess, Liverpool
337 cks, Churchman & Co, British Princess, Liverpool
155 cks, J Lee & Co, Bretwalda, Newcastle
311 cks, Wing & Evans, Ohio, Liverpool
CAUSTIC—150 dms, E Yarnall & Son, British Princess Liverpool
531 dms, Fergusson Bros, Bretwalda, Newcastle
CHLORATE—75 kgs, order, Bretwalda, Newcastle
SAL—1,019 pgs, J I Keefe, Bretwalda, Newcastle
216 cks, order, Bretwalda, Newcastle
SUMAC—350 bgs, order, Helios, Palermo
LEAVES—500 bls, order, Helios, Palermo
TURMERIC—140 bgs, J W Rulon & Son, Maine, London
140 bgs, J W Rulon & Son, Maine, London
100 bgs, J W Rulon & Son, Maine, London
ZINC OXIDE—100 bbls, Harrison Bros & Co, Maine, London

TOTAL DOMESTIC RECEIPTS.

FOR WEEK ENDING MAY 19, 1890.

		For week.	Since Jan 1.
Alcohol	bbls.	303	7 637
Ashes	pkgs.	596	7.396
Beeswax	pkgs.	..	141
Borax	pkgs.	3,915	17,598
China clay	cks.	62	3,.96
Cottonseed	bags.	.	3
Meal	bgs.	300	3?,477
Cake	bgs.	..	800
Flaxseed	bush.	..	3,1 3
Grease	pkgs	784	15,79?
High Wines	bbls.	1,194	2 .0 0
Lead	pigs.	2,086	20 998
Mustard seed	bgs.	..	8.440
Oil, Cottonseed	bbls.	3,222	49,127
Lard	bbls.	170	3 945
Linseed	bbls.		
Lubricating	bbls.	532	10,933
Cake	bags.	2,679	44 3.9
Oleo stock	pkgs.	..	5.594
Pitch	bbls.	50	1.215
Quicksilver	flks.		1,995
Rosin	bbls.	7,590	133,699
Stearine	pkgs.	36	1,560
Sumac	bags.	190	4,581
Tallow	pgs.	1,448	23,495
Tar	bbls.	311	8,050
Turpentine, crude	bbls.	75	831
spirits	bbls.	4,822	30,512

WITHDRAWALS FROM BOND.

Acid citric, kgs	10
Aniline colors, pgs	152
Bay Rum, pgs	25
Beeswax, hhds	7
Bronze powder, cs	1
Castor seed, bgs	50
Corks, bis	60
Dyewood extract, cks	5
Frankfort blacks, cks	8
Glass window, cs	434
Glue, pgs	20
Licorice paste, cs	55
Licorice powder, bls	1
Matches, cs	100
Oil essential cs	3
Oil linseed, bbls	5
Oil olive, bbls	25
Opium, cs	2
Pomade, cs	2
Potash carb, cks	5
Potash caustic, cyls	610
Potash chlo, kgs	50
Red lead, cks	4
Saltpeter, bgs	150
Soap castile, cs	100
Soda bicarb, kgs	20
Soda caustic, dms	46
Spanish earth, bgs	13
Sponge, pgs	7
Sumac ext, bbls	10
Ultramarine, pgs	16
White lead, cks	10

NEW YORK DOMESTIC RECEIPTS

Week ending May 19.

ALCOHOL—303 bbls, J A Webb & Son, B & O RR
BONES—55 hhds, Lister Bros, str, N O
BORAX—3,835 bgs, J W Mather, str, N O
80 bgs, order, str, S F
CLAY—62 bgs, R McNamee & Co, str, Chas
COTTONSEED ASHES—596 bgs, forward, str, New Orleans
MEAL—300 bgs, forward, str, N O
GLUE—18 bbls, A H Codington, str, S F
GREASE—374 pgs, order, N R boats
10 pgs, order, N Y C RR
15 pgs, S & S, Penn RR
40 pgs, H W Calef, B & O RR
14 pgs, H W Calef, N Y, W S & B RR
75 pgs, J Sinclair & Co, N Y C RR
80 pgs, J Macy's Sons, N Y C RR
52 pgs, G Hesterman, L V RR
6 pgs, Welch, H & C, Penn RR
64 pgs, Gabian & Co, L V RR
13 pgs, J H Welch, L V RR
41 pgs, J H Welch, D, L & W RR
HIGH WINES—65 bbls, J A Webb & Son, Penn RR
315 bbls, G W Kidd & Co, D, L & W RR
63 bbls, Luyties Bros, L V RR
160 bbls, Cook & B, Penn RR
66 bbls, J L Hasbrouck & Son, D, L & W RR
65 bbls, T B Kerr, Penn RR
394 bbls, Curtiss & Co, Penn RR
65 bbls, Lederwood & Co, B & O RR
LEAD—2,086 pigs, Leroy S & L Co, N Y, L E & W RR
OIL COTTONSEED—300 bbls, Union Oil Co, str, Galveston
50 bbls, E Ward & Co, str, N O
600 bbls, W J Bower & Co, str, N O
76 bbls, W J Bower & Co, str, Richmond
7 bbls, Hopkins, D & Co, str, N O
689 bbls, Hopkins, D & Co, str, Sav
37 bbls, Hopkins, D & Co, str, Richmond
700 bbls, J Macy's Sons, str, Savannah
60 bbls, Ky Ref Co, str, Richmond
40 bbls, Faith Oil Co, str, Richmond
139 bbls, order, N R boats
216 bbls, Simmonds & G, str, Fernandina
100 bbls, N L O Co, N R boats
44 bbls, Hopkins D & Co, str, Brunswick
164 bbls, So Oil Co, str, Savannah
OIL—995 pgs, E Balbach & Son, str, N O
LARD—75 bbls, Man Oil Co, N Y C RR
95 bbls, Fairbank & Co, N Y C RR
LUB—445 bbls, order, N Y, L E & W RR
10 bbls, order, N Y C RR
77 L B Squire, Penn RR
OIL CAKE—675 pgs, I & C Moore & Co, Penn RR
300 pgs, W S Travis, N Y L E & W RR
300 pgs, W S Travis, N Y C RR
280 pgs, T Williams, N Y C RR
140 pgs, T Williams, Penn RR
114 pgs, Nat L Oil Co, D L & W RR
670 pgs, J F Gasseguess, N Y W S & B RR
200 pgs, Forbes & S, D, L & W RR
PITCH—50 bois, R F Seaman, str, Wilmington
ROSIN—178 bbls, forward, str, Savannah
610 bbls, Dutton & W, str, Savannah
272 bbls, J Turton's Sons, str, Richmond
222 bbls, J Turton's Sons, str, Charleston
78 bbls, G Potter & Co, str, Fernandina
520 bbls, G Potter & Co, str, Charleston
784 bbls, G Potter & Co, sch, Georgetown
514 bbls, M W Larendon, str, Savannah
574 bbls, M W Larendon, str, Charleston
59 bbls, M W Larendon, str, Richmond
75 bbls, F W Blossom, str, Savannah
15 bbls, F W Blossom, str, Wilmington
254 bbls, Z Mills, str, Charleston
83 bbls, Fenner & Co, str, Richmond
48 bbls, G W Bailey & Co, str, Charleston
524 bbls, G W Bailey & Co, str, Richmond
118 bbls, W H Wiggins, sch, Georgetown
50 bbls, Paterson, D & Co, str, Charleston
150 bbls, Paterson, D & Co, str, Richmond
168 bbls, W K Hinman & Co, str, Richmond
50 bbls, Murchison & Co, str, Charleston
26 bbls, Tolar, H & Co, str, Wilmington
291 bbls, Tolar, H & Co, str, Richmond
1,258 bbls, Tolar, H & Co, sch, Georgetown
30 bbls, H J Hayne, str, Charleston
59 bbls, Paterson D & Co, str, Brunswick
50 bbls, G W Bailey & Co, str, Savannah
500 bbls, Colgate & Co, str, Savannah
SOAP STOCK—236 bbls, forward, str, New Orleans
88 bbls, forward, str, Charleston
SPICES—2) bls, 21 bgs, J W Phyfe & Co, str, San Francisco
TALLOW—262 pgs, order, N R boats
14 pgs, order, str, Charleston
38 pgs, order, N Y L E & W RR
42 pgs, order, N Y C RR
20 pgs, order, D L & W RR
111 pgs, order, str, Richmond
8 pgs, order, B & O RR
150 pgs, Ferris & K, N R boats
14 pgs, Ferris & K, Penn RR
57 pgs, W Haccus, Penn RR
24 pgs, EVolk, N Y W S & B RR
23 pgs, Colgate & Co, D L & W RR
5 pgs, J Hecht, N Y W S & B R R
66 pgs, H W Calef, C RR of N J
30 pgs, H W Calef, B & O RR
90 pgs, H W Calef, N R boats
13 pgs, H W Calef, N Y C RR
24 pgs, H W Calef, L V RR
12 pgs, J H Welch, C RR of N J
60 pgs, G Vandenhove, N R Boats
119 pgs, G Vandenhve, Penn RR
50 pgs, G Vandenhove, N Y W S & B RR
41 pgs, G Vandenhove, D L & W RR
54 pgs, G Vandehove, L V RR
77 pgs, Hecht & S, N Y C RR
7 pgs, A Churchman, N R boats
31 pgs C S Higgins & Co, Penn RR
10 pgs, S & S, Penn RR
17 pgs, D B Martin, B & O RR
7 pgs, B T Babbitt, N Y O & W RR
30 pgs, Welch H & Co, N R boats
TAR—12 bbls, order, str, Charleston
150 bbls, forward, str, Wilmington
100 bbls, J A Casey, str, Wilmington
26 bbls, Tolar H & Co, Geogetown
23 bbls, Z Mills, str, Richmond
SP TURP—80 bbls, forward, str, Savannah
162 bbls, forward, str, Wilmington
10 bbls, forward, str, Richmond
650 bbls, F W Blossom, str, Savannah
150 bbls, F W Blossom, str, Charleston
218 bbls, F W Blossom, str, Wilmington
350 bbls, Tolar H & Co, str, Richmond
21 bbls, Tolar H & Co, str, Wilmington
31 bbls, Tolar H & Co, str, Charleston
1,812 bbls, Tolar H & Co, sch, Georgetown
176 bbls, G W Bailey & Co, str, Richmond
25 bbls, G Potter & Co, str, Fernandina
102 bbls, G Potter & Co, str, Charleston
171 bbls, G Potter & Co, sch, Georgetown
40 bbls, Dutton & W, str, Savannah
80 bbls, J Turton's Sons, str, Savannah
75 bbls, Pratt & Co, Savannah
125 bbls, Z Mills, str, Charleston
35 bbls, W H Wiggins, str, Charleston
32 bbls, W H Wiggins, sch, Georgetown
72 bbls, Murchison & Co, str, Charleston
3 0 bbls, H J Hayne, str, Charleston
10 bbls, Welch H & C, str, Wilmington
7 bbls, Fenner & Co, str, Wilmington
14 bbls, Fenner & Co, str, Richmond
150 bbls, Paterson D & Co, str, Charleston
40 bbls, Sutton & Co, str, Savannah
10 bbls, W K Hinman & Co, str, Richmond
4 bbls, G Potter & Co, str, Richmond
70 bbls, forward, str, Charleston
CRUDE TURP—75 bbls F W Blossom, str, Wilmington

BOSTON DOMESTIC RECEIPTS

For week ending May 16.

COTTONSEED MEAL—720 bu, G J RR
800 bu, F RR
GREASE—53 bbls, B & A RR
36 bbls, B & P RR
11 bbls, O C RR
10 bbls, 6 pgs, By sea
10 bbls, B & M RR
38 bbls, N Y & N E RR
19 bbls, F RR
TALLOW—25 bbls, B & A RR
27 bbls, 1 pg, O C RR
39 bbls, N Y & N E RR
57 bbls, 9 pgs, F RR
207 bbls, 29 pgs, B & M RR
41 bbls, 20 pgs, By sea

WILMINGTON DOMESTIC RECEIPTS

For week ending May 17.

ROSIN—3,618 bbls, Inland
TAR—1,097 bbls, Inland
TURPENTINE SPIRITS—1,338 cks, Inland
CRUDE—259 bbls, Inland

SAVANNAH DOMESTIC RECEIPTS

For week ending May 16.

CLAY—39 cks, C RR
COTTONSEED MEAL—3 cars, C RR
FERTILIZERS—13 cars, C RR
GLASS WINDOW—11 bxs, C & S RR
OIL—2,205 bbls, C RR
COTTONSEED—28 bbls, S, F & W RR
PHOSPHATE—30 sks, S, F & W RR
ROSIN—3,723 bbls, C RR
10,682 bbls, S, F & W RR
668 bbls, C & S RR
359 bbls, str, Fernandina
SOAP—63 bxs, C RR
TALLOW—10 bbls, C RR
TURPENTINE SPTS—2,462 bbls, C RR
3,930 bbls, S, F & W RR
7 bbls, C & S RR
114 bbls, str, Fernandina
CDE—118 bbls, S, F & W RR
WAX—2 pgs, S, F & W RR

NEW ORLEANS DOMESTIC RECEIPTS.

For week ending May 15.

ACID—110 cbys, Cincinnati
ALCOHOL—42 bbls, 7 hf bbls, Ill C RR
BEESWAX—1 bbl, S P RR
BONES—13 cars, L & N RR
2 cars, S P RR
BORAX—1,391 sks, S P RR
CANDLES—25 bxs, Cincinnati
CEMENT—100 bbls, Cincinnati
COTTONSEED—1,770 sks, Shreveport
2 cars, L, N O & T RR
MEAL—5,500 sks, Shreveport
9,680 sks, 14 cars, S P RR
4,440 sks, L, N O & T RR
2,000 sks, St Louis
GASOLINE—6 cars, N O & N E RR
GREASE—60 bbls, L & N RR
GUANO—2 cars, L & N RR
OIL—25 bbls, Cincinnati
2 cars, N O & N E RR
151 bbls, S P RR
120 bbls, L & N RR
46 bbls, St Louis
CAKE—125 sks, 1 car, S P RR
ROSIN—135 bbls, Pearl River
4 cars, N O & N E RR
SOAP—890 bxs, L & N RR
STARCH—2,400 bxs, 150 bbls, Cincinnati
TURPENTINE—35 bbls, Pearl River
2 cars, N O & N E RR

EXPORTS FROM NEW YORK FOR THE WEEK ENDING MAY 19.

ACID

5 cbys $20 Alvena, Kingston
25 bgs $75 wandering Jew, Georgetown
150 bgs $524 Antonio Sala Havana
150 bgs $523 Mendoza, Havana

ACID STEARIC

2 cs $12 Santiago, Nassau

AMMONIA

10 flks $90 Alvena, Pt Limon
29 flks 2,672 M P Tucker, Buenos Ayres

ANISEED

1 bg $22 Alvena, Pt Limon
1 bg $20 E Sheraton, St Domingo City
2 cs $50 Morien, St Domingo City

ARROWROOT

1 bbls $15 Alvena, Pt Limon
1 bx $12 Orinoco, Hamilton

BONES

11 bgs $48 Westerniand, Antwerp

BONE BLACK

1 bbl $7 Alvena, Pt Limon

BORAX

1 bg $20 Alvena, Pt Limon
1 cs $10 Santiago, St Jago

CAMPHOR

1 bbl $138 Alvena, Pt Limon

CANDLES

10 bxs $17 Alvena, Kingston
20 cs $210 Wandering Jew, Georgetown
67 pgs $70 E Sheraton, St Domingo City
75 bxs $170 Kildonan, St Johns Ant
100 bxs $150 Aldine, Surinam
100 bxs $200 A B Crosby, Fajardo
12 pgs $113 Morien, St Domingo City
10 cs $20 Venezia, St John, P R
3 cts $ 30 A Bradshaw, Pt au Prince

CARBON BLACK

6 bbls $24 Othello, Newcastle

CEMENT

12 bbls $72 Alvena, Jeremie
1 cs $60 Santiago, St Jago
7 bbls $8 Orinoco, Hamilton
4 bbls $12 E Sheraton, St Domingo City
1 cs $40 Lurline, Brisbane
30 bbls $78 Morien, St Domingo City
20 bbls $56 A Bradshaw, Pt au Prince
25 bbls $55 J Sabater, Manzanillo

COPPER PAINT

35 gls $49 Orinoco, Hamilton
1,254 gls $1,154 Lurline, Brisbane
15 gls $15 T Cosulich, Wellington
3 gls $10 Martello, Hull
70 gls $102 R Josephy, Nelson

CLOVES

1 bg $14 Morien, St Domingo City

DYEWOOD EXTRACT

76 pgs $591 Entella, Genoa
526 bxs $6,189 Rugia, Hamburg
20 bbls $615 Mansdam, Rotterdam
150 bxs $1,003 Westerniand, Antwerp
50 bxs $197 Denmark, London

EARTH PAINT

1 cs $15 Majestic, Liverpool

FLAVINE

100 bxs $1,250 Rugia, Hamburg

GAS OIL

475 gls $76 M P Tucker, Buenos Ayres

GASOLINE

9,600 gls $776 Antwerp, London
50 gls $5 Holmes, St John N B

GINGER

45 bbls $270 Denmark, London

GLUCOSE

31,250 lb $500 Crystal, Leith
318,504 lb $6,268 Olympia, Liverpool
15,381 lb $308 Martello, Hull
36,893 lb $685 C of Chicago, Liverpool

GLUE

3 bgs $34 Alvena, Pt Limon
2 cs $12 T Cosulich, Wellington

GRAPE SUGAR

4,766 lb $95 Lurline, Hobart

GREASE

33,704 lb $1,191 Moravia, Hamburg
11 000 lb $500 Kate, Plymouth
24,943 lb $362 Lurline, Brisbane
20,396 lb $1,836 A'dam, R'dam
5,426 lb $450 La Bretagne, Havre
76,998 lb $3,430 Slavonia, Hamburg
21,728 lb $924 Rugia, Hamburg
186,490 lb $7,050 Alesia, Marseilles
28,500 lb $1,200 Alesia, Genoa

GUM LAC

1 cs $29 Alvena, Jeremie

LIME ACETATE

779 bgs $2,857 Moravia, Hamburg
836 bgs $3,000 Slavonia, Hamburg

LIME CHLO

2 pgs $25 Alvena, Pt Limon

LOGWOOD

2 bbls $7 Santiago, St Jago

LOGWOOD EXTRACT

25 pgs $495 Alesia, Barcelona

LUBRICATING GREASE

900 lb $20 Santiago, St Jago
2,240 lb $65 Anchoria, Glasgow
200 lb $12 Morien, St Domingo City

MAGNESIA

2 bxs $90 Alvena, Pt Limon

MANNA

5 cs $160 Alvena, Pt Limon

MATCHES

3 cs $39 A Bradshaw, Pt au Prince

MEDICAL LEAVES

2 pgs $35 Lurline, Brisbane

OIL CAKE

467,915 lb $5,207 Kate, Plymouth
521,884 lb $6,288 Urbino, London
1,446,710 lb $4,310 Helvetia, London
2,240,000 lb $28,560 Gallina, Kings Lynn
651,304 lb $8,258 Australia, Avonmouth
285,491 lb $6,600 Mascotte, London
385,455 lb $3,860 Martello, Hull
945,671 lb $12,569 Lyd Monarch, London

OIL COD

214 gls $68 Lurline, Brisbane
1,492 lb $418 Lurline, Hobart

OIL COTTONSEED

524 gls $178 Wandering Jew, Georgetown
10,640 gls $3,050 Anchoria, Glasgow
500 gls $162 Slavonia, Hamburg
5,000 gls, $1,700 Amsterdam, Amsterdam
1,758 gls, $695 Bermuda, Guadeloupe
287 gls $140 Bermuda, St Lucia
780 gls $268 Bermuda, Barbadoes
1,890 gls $900 Elcho, Georgetown
1,500 gls $528 Arizona, Liverpool
48 gls $24 T Cosulich, Wellington
400 gls $160 America, Bridgetown

OIL ESSENTIAL

9 cs $1,000 La Gascogne, Havre
5 cs $2,907 Alesia, Marseilles

OIL LARD

1,169 gls $583 Wandering Jew, Georgetown
240 gls $146 V L Stafford, Pt Elizabeth
378 gls $229 T Cosulich, Wellington
3,062 gls, $1,623 L Hill, London
90 gls $56 Angora, Cape Town
1,271 gls $674 Glenmavis, London
48 gls $30 R Josephy, Nelson

OIL LINSEED

200 gls $164 A B Crosby, Colon
170 gls $130 Morien, St Domingo City
52 gls $34 A Bradshaw, Pt au Prince
52 gls $34 W H Van Name, Marsh Harbor
50 gls $40 Denmark, London

OIL LUBRICATING

1,237 gls $175 Moravia, Hamburg
556 gls $140 Alvena, Pt Limon
37 gls $24 Alvena, Kingston
50 gls $25 Santiago, St Jago
7,000 gls $1,703 M P Tucker, Buenos Ayres
50 gls $15 E Sheraton, St Domingo City
6,858 gls $825 S of Georgia, Glasgow
2,106 gls $349 Seneca, Matanzas
2,800 gls $522 Jupiter, Montevideo
2,737 gls $300 Aller, Bremen
38,750 gls, $4,650 Othello, Newcastle
1,455 gls $117 Anchoria, Glasgow
750 gls $4 0 Helvetia, London
760 gls $125 Lurline, Brisbane
4,800 gls $700 Lurline, Hobart
22,500 gls $2,700 Corona, Antwerp
8,247 gls $1,497 Amsterdam, Rotterdam
31,187 gls $3,513 La Bretagne, Havre
8,430 gls $3,590 Dulep Singh, Valparaiso
25,000 gls $5,000 Australia, Avonmouth
15,558 gls $1,888 Arizona, Liverpool
1,016 gls $127 Island, Copenhagen
365 gls $105 T Cosulich, Wellington
120 gls $90 Angora, Cape Town
24,950 gls $3,000 Gaditano, Avonmouth
31,250 gls $3,600 Martello, Hull
10,896 gls $2,215 Lyd. Monarch, London
26,682 gls $3,235 Westerniand, Antwerp
48,930 gls $6,087 Denmark, London
486 gls $170 Entella, Genoa

1,750 gls $210 Alesia, Marseilles
1,250 gls $150, Alesia, Leghorn
1,500 gls $180 Alesia, Naples
16,630 gls $1,983 Alesia, Genoa
100,987 gls $12,150 City of Chicago, Liverpool
2,716 gls $2,580 Aller, Bremen
1,700 gls $230 R Josephy, Dunedin

OIL MACHINE

2 cs $8 Jupiter, Montevideo
54 pgs $246 Slavonia, Hamburg
6 cs $37 T Cosulich, Wellington
7 cs $35 R Josephy, Nelson

OIL MEAL

46,500lb $680 Kildonan, St John's, Ant
9,000lb $136 I Balcom, Ponce
25,000lb $330 Bermuda, Barbadoes
3,125lb $45 Bermuda, Trinidad
1,500lb $23 Bermuda, St Kitts
5,000lb $64 T Towner, St Croix
3,000lb $40 T Towner, Christenstedt
143,750lb $2,220 America, Bridgetown
25,000lb $400 Scud, Bridgetown
7,500lb $300 Daylight, Frederickstedt

OIL OLEO

945,401lb $76,396 Amsterdam, Amsterdam
380,602lb $33,464 Amsterdam, Rotterdam

OIL PALM

2 bbls $65 Alvena, Pt Limon

OIL PEPPERMINT

1 cs $155 La Gascogne, Havre

OIL WATCH

1 cs $160 La Bretagne, Havre

PARAFFINE WAX

5,609lb $407 Alvena, Pt Limon
416,746lb $1,800 Kate, Plymouth
58,625lb $7,000 Urbino, London
187,589lb $7,530 Othello, Newcastle
15,031lb $560 Anchoria, Glasgow
34,150lb $1,500 Amsterdam, Rotterdam
538lb $113 Yumuri, Progreso
31,125lb $1,080 Gaditano, Avonmouth
90,420lb, $7,200 Martello, Hull
152,750lb $6,575 Lydian Monarch, London
151,250lb $20,000 Denmark, London

PEPPER

1 bg $16 Santiago, Nassau
4 bgs $47 Santiago, St Jago
1 bg $24 E Sheraton, St Domingo City
10 bgs $160 A B Crosby, Fajardo
2 bgs $39 Morien, St Domingo City

PITCH

5 bbls $5 Santiago, Cienfuegos
10 bbls $14 Wandering Jew, Georgetown
4 bbls $7 Morien, St Domingo City

ROOTS

24 bls $1,988 Urbino, London

ROSIN

1 bbl $6 Alvena, Kingston
25 bbls $67 Alvena, Pt Limon
30 bbls $112 Santiago, Cienfuegos
330 bbls $1,623 M P Tucker, Buenos Ayres
300 bbls $1,453 Jupiter, Montevideo
99 bbls $530 Laplace, London
153 bbls $937 Othello, Newcastle
900 bbls $3,760 Wicklow, Montevideo, f o
236 bbls $670 Lurline, Brisbane
100 bbls $210 Nord America, Madeira
50 bbls $138 Costa Loba, Oporto
85 bbls $283 F Cosulich, Wellington
50 bbls $286 Angora, Cape Town

SAGO

2 bgs $20 Daylight, Christenstedt

SENEGA ROOT

1 bx $23 Lurline, Brisbane

SHELLAC

1 cs $8 Santiago, Cienfuegos

SOAP

5 pgs $103 Alvena, Pt Limon
150 bxs $88 Alvena, Jeremie
5 cs $175 Santiago, St Jago
3 pgs $72 Santiago, Cienfuegos
6 cs $19 Santiago, Nassau
20 bxs $79 Orinoco, Hamilton
500 bxs $224 Martello, Hull
6 cs $120 Jupiter, Montevideo
25 bxs $49 Atalanta, St Ann's Bay
10 bxs $20 Atalanta, Pt Maria
300 bxs $2,210 Anchoria, Glasgow
180 bxs $264 A B Crosby, Colon
70 bxs $140 Lurline, Hobart
4 bxs $32 Dulp Singh, Valparaiso
7 bxs $81 T Cosulich, Wellington
50 bxs $22 L Hill, London
30 cs $155 Angora, Cape Town
2,900 bxs $1,682 A Bradshaw, Pt au Prince
25 cs $315 Denmark, London
13 cts $.81 Glenmavis, London

SODA

5 kgs $11 Orinoco, Hamilton

SODA CAUSTIC

8 dms 155 Alvena, Pto Cabello

SPONGE

136 bbls, $5,630 L Monarch, London

STARCH

10 bbls, $45 Alvena, Kingston
7 pgs $22 Orinoco, Hamilton
40 bxs $60 Kildonan, St Johns Ant
100 bxs $196 Jupiter, Montevideo
35 bxs $50 Aldine, Surinam
20 bxs $30 A B Crosby, Fajardo
4 bbls $40 Arizona, Liverpool
30 bxs $82 Daylight, Christenstedt
30 bxs $82 Daylight, Frederickstedt

STEARINE

5,900lb $150 Amsterdam, Rotterdam
43,000lb $2,400 Maasdam, Rotterdam
18,385lb $1,300 Westerniand, Antwerp

TALLOW

53,451lb $2,535 Alvena, Pt Limon
7 073lb $371 Wandering Jew, Georgetown
49,950lb $2,411 E Sheraton, St Domingo City
246,271lb $8,208 Othello, Newcastle
52,581lb $2,600 Helvetia, London
40,830lb $1,683 La Britagne, Havre
133,135lb $6,436lb Arizona, Liverpool
76,485lb $3,169 Laplace, Liverpool
34,760lb $1,800 L Monarch, London
44,030lb $1,400 Alesia, Genoa
109,955lb $5,565 C of Chicago, Liverpool

TAR

2 cs $11 Alvena, Pt Limon
4 bbls $23 Santiago, St Jago
5 bbls $20 Adelaide, Surinam
8 pgs $26 Morien, St Domingo City

TURPENTINE

1,000 gls $433 Hassia, Hiogo
1,000 gls $435 Hassia, Shanghai
234 gls $116 Alvena, Kingston
520 gls $267 Alvena, Pt Limon
147 gls $58 Santiago, St Jago
1,000 gls $440 M P Tucker, Buenos Ayres
300 gls $96 Wandering Jew, Georgetown
2,500 gls $1,080 Wicklow, Montevideo
320 gls $67 Lurline, Brisbane
96 gls $45 Prins Willem II, Demerara
1,500 gls $885 V L Stafford, Pt Elizabeth
1,784 gls $813 T Cosulich, Wellington
2,224 gls $1,051 Angora, Cape Town
46 gls 722 A Bradshaw, Pt au Prince
288 gls $130 R Josephy, Nelson
768 gls $340 R Josephy, Dunedin

VARNISH

44 gls $64 Alvena, Kingston
3 gls $46 Santiago, Cienfuegos
208 gls $175 Wandering Jew, Georgetown
23 gls $1,145 Urbino, London
55 gls $72 Wicklow, Montevideo f o
12 gls $20 Wicklow, Buenos Ayres
130 gls $615 A'dam, R'dam
55 gls $250 Slavonia, Hamburg
200 gls $320 Rugia, Hamburg
110 gls $115 T Cosulich, Wellington
20 gls $22 Angora, Cape Town
27 gls $27 Alesia, Barcelona

VASELINE

1 cs $8 Alvena, Kingston
2 cs $24 Orinoco, Hamilton
1 cs $10 Wandering Jew, Georgetown
1 cs $11 R Josephy, Nelson
2 cs $63 R Josephy, Dunedin

WAX

50 cs $700 T Cosulich, Wellington
14,500lb $775 L Monarch, London
7,345lb $1,175 S of Georgia, Glasgow

WHALEBONE

548lb $810 Werra, Bremen

WHITE LEAD

3 cs $16 T Towner, Christenstedt

ZINC OXIDE

50 bbls $440 Martello, Hull

San Francisco Exports

For week ending May 7.

BONE MEAL

800 sks, Lurline, Hilo

BORAX

200lb, A Welch, Honolulu
85,412lb, Mariposa, Australia

CANDLES

50 bxs, Australia, Honolulu
130 bxs, Colima, Mexico
36 bxs, Lurline, Hilo

CEMENT

250 bbls, A Welch, Honolulu
100 bbls, Planter, Honolulu

FERTILIZER

730 sks, A Welch, Honolulu
700 sks, Planter, Honolulu
2,264 sks, Lurline, Hilo

GASOLINE

2,000 gls, A Welch, Honolulu

OIL LARD

316 gls, Lurline, Hilo

OIL LINSEED

10 cs, Colima, Central America

OIL LUBRICATING

758 gls, Australia, Honolulu
3,440 gls, Mariposa, Australia

OIL NUT

40 cs, A Welch, Honolulu

OIL WHALE

4,324 gls, Mariposa, Australia
789 gls, Mariposa, New Zealand

OPIUM

338lb, City of Papeete, Tahiti

PAINT

11 pgs, Australia, Honolulu
36 pgs, A Welch, Honolulu
7 pgs, Empire, Victoria
8 pgs, C of Papeete, Tahiti
16 pgs, Colima, Central America

QUICKSILVER

50 flks, Colima, Mexico
200 flks, Colima, in transit

SOAP

193 bxs, Australia, Honolulu
5 bxs, A Welch, Honolulu
160 bxs, City of Papeete, Tahiti
40 bxs, City of Papeete, Marquesas
7 bxs, Colima, Central America
50 bxs, Lurline, Hilo

SODA

725lb, Australia, Honolulu
690lb, A Welch, Honolulu

SPICES

99 pgs, Australia, Honolulu
15 pgs, Colima, Central America

STARCH

720lb Australia, Honolulu
1,360lb, A Welch, Honolulu
1,700lb, Colima, Central America

TAR

5 bbls, Lurline, Hilo

TURPENTINE

10 cs, Colima, Central America
12 cs, Lurline, Hilo

WHITE LEAD

100lb, C of Papeete, Tabiti

New Orleans Exports.

For week ending May 8.

ALCOHOL

25 bbls, Breakwater, Puerto Cortez

CANDLES

10 bxs, Wm G Hewes, Bluefields

CEMENT

25 bbls, Hy Buddig, Greytown

COTTONSEED MEAL

4,480 sks, Ravenshoe, Antwerp

OIL

162 bbls, Ravenshoe, Antwerp

OIL COTTONSEED

3,170 bbls, Vesuvio, Cagliari
7,150 bbls, Neto, Maassiluis
1,000 bbls, Costa Rican, Liverpool
400 bbls, Australia, Hamburg

OIL CAKE

1,350 sks, Australia, Hamburg
5,928 sks, Ravenshoe, Antwerp

Savannah Exports.

For week ending May 16.

COTTONSEED

4,369 sks, Craighill, Garston Dock

ROSIN

3,117 bbls, Craighill, Garston Dock
4,612 bbls, Iris, Pooteloff Harbor

SP TURP

2,422 bbls, P A Munch, Liverpool

Wilmington Exports.

For week ending May 17.

ROSIN

3,556 bbls, Wilhelmine Pust, Garston
4,364 bbls, Natvig, Bristol
2,048 bbls, Atlantic, Glasgow

TURPENTINE SPTS

250 cks, Wilhelmine Pust, Garston
500 cks, Atlantic, Glasgow

Charleston Exports.

For week ending May 17.

PHOSPHATE ROCK

2,350 tons, Sir Walter Raleigh, Plymouth
1,240 tons, Magnolia, Leith

ROSIN

3,613 bbls, Baltic, Granton

Baltimore Exports

For week ending May 15.

BARK

26,940lb, Halsatia, Hamburg
36,288lb, Albano, Rotterdam

BARK EXTRACT

51,277lb, Duchess, Belfast
5,817lb, Halsatia, Hamburg
51,277lb, Lepanto, Antwerp

BARK LIQUOR

10 bbls, Rossmore, Liverpool

BONES

78,000lb, Montana, London

GREASE

27,000lb, Halsatia, Hamburg

OIL

303 gls, Lisbonense, Para

OIL ANIMAL

508 gls, Lisbonense, Para

OIL LARD

210 gls, Halsatia, Hamburg

OIL LUB

10,047 gls, Duchess, Belfast
27,974 gls, Halsatia, Hamburg
3,000 gls, Victory, Antwerp

OIL OLEO

49,500lb, Halsatia, Hamburg

OIL CAKE

84,000lb, Montana, London
114,706lb, Lord O'Neill, Dublin

OLEO STOCK

678,300lb, Khio, Rotterdam
1,638,000lb, Albano, Rotterdam
26,034lb, Carolina, Liverpool

ROSIN

200 bbls, Baltimore, Rio Janeiro
200 bbls, Caspian, Liverpool

STARCH

154,800lb, Albano, Rotterdam

Boston Exports.

For week ending May 16

ACID

70 cbys Ida Mad, Halifax
10 cbys, H C Sibbey, Barbadoes

ASBESTOS

440 bgs, Navarro, London

CEMENT

25 bbls Elgiva, Port Antonio
1,000 bbls, R Carson, Bear River

COTTONSEED MEAL

20 bgs, Canning Packet, Annapolis

DYESTUFFS

200 bxs, Buffalo, Hull

DYEWOOD

30 bxs Halifax, Halifax

FERTILIZER

8 bbls, New Brunswick, Annapolis

GLUCOSE

10 bbls, Halifax, Halifax

GREASE

174 bbls Navarro, London
30 hhds, Buffalo, Hull
235 bbls, 184 hhds, Michigan, Liverpool
50 hhds, Bostonian, Liverpoo

GROUND BONE

6 bgs, Yarmouth, Yarmouth

OIL

1,540 cs, Eugene Hale, Surinam
5 bbls, Kate McKinnon, North Sydney
6 bbls, New Brunswick, Annapolis

OIL LARD

200 bbls, Magellan, Valparaiso

OIL LINSEED

25 bbls, Windsor Packet, Yarmouth

OIL LUB

5 bbls, Halifax, Halifax
25 bbls, Carroll, Halifax

OIL MINERAL SPERM

50 bbls, Venetian, Liverpool

OIL PALM

75 cts, Michigan, Liverpool

OIL SALAD

20 bbls, Michigan, Liverpool

OIL TALLOW

230 tcs, De Ruyter, Antwerp

OIL CAKE

775 sks, De Ruyter, Antwerp
645 sks, Samaria, Liverpool
477 sks, Michigan, Liverpool
676 sks, Norwegian, Glasgow

OIL MEAL

25 bgs, Halifax, Halifax

PAINT

300 dms, 5 bbls, Yarmouth, Yarmouth

PAINT COPPER

15 cs, Buffalo, Hull
10 cs, Carroll, Halifax

PITCH

100 bbls, Ida Maud, Halifax
10 bbls, Magellan, Valparaiso
25 bbls, Carroll, Halifax
46 bbls, Neva, Pasbebiac

PHOSPHATE

80 bbls, New Brunswick, Annapolis
40 bbls, Yarmouth, Yarmouth

ROSIN

200 bbls, Magellan, Valparaiso

SOAP

2,400 bxs, Jos A Ropes, Tamatave & am

SUMAC

6 bgs, Halifax, Halifax

TALLOW

30 tubs, Navarro, London
180 bbls, Buffalo, Hull
283 hhds, 267 bbls, Michigan, Liverpool

TAR

6 bbls, Neva, Pasbebiac

TURPENTINE

200 cs, Magellan, Valparaiso

VARNISH

12 bbls, Navarro, London

Philadelphia Exports.

For week ending May 16.

BONEBLACK

10 bbls, Lord Clive, Liverpool

OIL CAKE

844 sks, Lord Clive, Liverpool
764 bgs, Switzerland, Antwerp

SOAP

100 bxs, Switzerland, Antwerp

TALLOW

353 pgs, Lord Clive, Liverpool

Choice Pressed Herbs, Leaves, Roots, Barks and Flowers.

OUR FACILITIES for obtaining supplies of every variety of the finest herbs, leaves, roots, barks and flowers are unequalled, and we offer pharmacists the choice of the market in this class of products. Herbs, leaves and flowers are put up in ounces; roots and barks in pound packages only. Each ounce package bears the common and Latin names, with synonyms in English, German and French, and the properties and dose. With poisons the antidotes are given.

We use in putting up our packages of pressed herbs an impervious paper in the case of all Drugs depending for their activity on a volatile constituent, thus retaining the strength unimpared.

Send for complete list of Pressed Herbs, Leaves, Roots, Barks and Flowers.

WE PREPARE a little pamphlet detailing the advantages of some of these fluids, which druggists will find especially useful, and we will send this on application. We may mention here a few illustrative preparations.

Fluid Extracts.

Specially prepared for the convenience of Druggists for the extemporaneous preparation of Tinctures, Syrups, Elixirs, Wines, Etc.

Fluid Aloes
Concentrated Extract Bay Laurel
Fluid Extract Blackberry
Fluid Extract Buchu and Juniper with Acetate of (Potassium
Fluid Catechu
Fluid Extract Wild Cherry Bark, Detannated
Fluid Wild Cherry Bark for Syrup
Fluid Extract Cinchona Compound
Fluid Extract Cinchona, Red Compound
Fluid Extract Sarsaparilla Compound for Syrup
Fluid Extract Ergot
Fluid Extract Gentian Compound
Fluid Ginger, Soluble
Fluid Extract Golden Seal
Fluid Extract Ipecacuanha
Fluid Extract Licorice for Quinine Mixtures
Fluid Opium, Aqueous and Deodorized
Fluid Opium, Camphorated
Fluid Extract Rhubarb
Fluid Rhubarb, Aromatic
Fluid Rhubarb, Sweet
Fluid Tolu, Soluble
Aromatic Sprup Yerba Santa

It will at all times give us great pleasure to mail, on application, complete descriptive price list and literature descriptive of our products, and to afford any information in our power regarding them.

PARKE, DAVIS & CO.,

MANUFACTURING CHEMISTS;

Detroit, Mich. New York, U.S.A.

ROBERT B. BROWN Pres't. CHARLES C. FULLER, Sec'y & Treas

Occidental Oil Co.,

14 Whitehall St., NEW YORK.

MANUFACTURERS OF

Brown's **PEERLESS.**

Also No. 2 and No. 3

Castor Oil,

WINTER YELLOW AND WHITE COTTON SEED OIL.

All Grades Guaranteed Absolutely Pure.

HIGHEST STANDARD QUALITY OF NORWEGIAN

CODLIVER OIL

THREE LEAF CLOVER BRAND

GUARANTEED STRICTLY NON-FREEZABLE.

FRED'K PAULSEN & CO., SOLE IMPORTERS 19 Old Slip NEW YORK.

STANDARD and RELIABLE

Vera Rallerey

ESSENTIAL OILS OF

LEMON,

BERGAMOT and ORANGE.

CROP OF 1890.

CODMAN & HALL, Agents, BOSTON, MASS.

Your Ceiling is Cracked and Broken.

Your Show Cases and Goods are in Danger!

NORTHROP'S PATENT PANELLED IRON AND STEEL CEILINGS

Offer a sure and safe substitute for Plaster and Wood Ceilings, that will not **Crack, Stain, or Fall off,** like Plaster, or **Shrink, Warp** or **Burn** like wood. These Ceilings can be put on over either old Plaster or wood, without muss or dirt. Send for Circulars and give diagram of ceiling with measurements, (**don't guess at it**), to

A. NORTHROP & SON,

Mention this paper. PITTSBURGH, PA.

THE CROWN PERFUMERY CO.'S (London, Eng.)

Lavender Salts, CRAB APPLE BLOSSOM EXTRACT, and Crab Apple Soap, etc., etc.

MUNRO & BALDWIN, 96 & 98 Maiden Lane, NEW YORK.

UNEXCELLED FOR CLEARNESS, SOLIDITY, COLOR AND PURITY.

BAKER'S REFINED CAMPHOR, Barrels, Cases, (Squares in Paper.)

Correspondence Solicited. H. J. BAKER & BRO., 215 Pearl St., New York.

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The BAKER CASTOR OIL CO.

N. Y. Office, 215 Pearl Street.

Manufacturers of the well known brands

BAKERS "AA" & "Crystal" Castor Oil.

DRUG MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on pages 45 and 46.

TUESDAY EVENING, May 20, 1890.

The movement in drugs is still confined to small parcels for the supply of current requirements. In no line is any speculative interest displayed though we note occasional efforts to provoke speculative excitement. Buyers are satisfied to supply their wants as they occur and nearly all the business doing is in small jobbing lots. The absence of a more important demand operates against any violent fluctuation in values, and the majority of such changes as have occurred during the week have been influenced by legitimate causes. Advices from the other side are not as a rule of a character to stimulate trading here. The last mail reports from London show a dearth of news there. In a few articles there is a little more than an average business reported, but in most lines business is confined strictly within jobbing limits. Strichnine shows an advance, santonine was doing better as was also peppermint oil. Camphor was still tending downward, quinine was dull and nominal while calabar beans, spermaceti and foenugreek seed were lower. Shellac was very firm and stic lac higher. Spices were in a good position with prices showing an upward tendency.

The principal changes of the week in this market have been as follows:

ADVANCED.	DECLINED.
Citric acid	Quinine, 2d hands
Guarana	Borax
Quicksilver	Cuttle bone
Mercurials	
Gum chicle	
China cassia	
African ginger	
Cochin ginger	
Red pepper	

Opium.

The opium market has remained very quiet throughout the week. With the prospect of a repeal of the duty of $1 00 per pound confronting the trade, nobody seems inclined to purchase in excess of the needs of the present. The market is steady, however, as there is no particular pressure to sell in view of the strong tone of advices from the primary sources of supply. Goods in bond are held at $2.75, while for duty paid stock $3.65 to $3.70 as to quantity is quoted. From those prices down to $2.45 is asked for standardized, according to quality, test, and quantity. Some members of the trade seem to be greatly exercised over a lack of provision in the pending bill as they view it, for a refund of duty on goods remaining in bond after the bill has become law. If we understand the point upon which they seem to be in doubt they have nothing to fear, as the bill explicitedly states that "on and after the day this bill shall go into effect all goods, wares and merchandise previously imported, for which no entry has been made, and all goods wares, and merchandise previously entered without payment of duty and under bond for warehousing, transportation or any other purpose, for which no permit of delivery to the importer or his agent has been issued, shall be subjected to no other duty upon entry or the withdrawal thereof, than if the same were imported respectively after that day."

Quinine.

Since we last wrote the market for quinine has been much unsettled, without apparent reason, other than that some holders have been anxious to dispose of their stock. Advices from London until to-day were of a reassuring character, cables last week reporting an upward movement there in quinine. Early in the week an easy feeling developed here, and offers to sell were made at comparatively low figures. We heard of a sale of 10,000 ozs at a shade under 26c, and several other lots of 5,000 ozs or less changed hands at about the same figure. The news from the bark sale to-day was not of a character calculated to inspire holders with confidence. Exactly how the sale went is not known at this writing, as some cables stated that previous prices were realized, while others reported a decline of 5%. The total quantity offered was 1,900 bales, of which 1,400 bales were sold. At the close the market was unsettled, and it was difficult to give quotations. The nominal asking prices were 26@ 26½c., as to brand and quantity, but it was probable that ½c. or possibly 1c. per oz. less would have been accepted.

Receipts of quinine for the week, oz. . 63,000
Since January 1, oz.. 1,628,556
Corresponding period last year, oz.....1,297,355

Miscellaneous.

Alcohol continues to move off quite freely in accordance with the current wants of the trade, and the market remains firm at our previous quotations of $1.93@$2 as to quantity.

Borax is in better supply, and as there is no improvement in the demand prices are slightly

SULFONAL-Bayer.
Manufactured by the
FARBENFABRIKEN, formerly FRIEDR. BAYER & CO., ELBERFELD.
SULFONAL IS PROTECTED BY UNITED STATES PATENT AND TRADE MARK.

We quote: per oz.
Sulfonal-Bayer, in oz. cartons.....$1.35
In lots 25 ozs,, " " 1.25
" 100 " " " 1.20
We also prepare Tablets and Pills of Sulfonal-Bayer.

Phenacetine—BAYER.
Manufactured by the
FARBENFABRIKEN, formerly FRIEDR. BAYER & CO., ELBERFELD.
Phenacetine is protected by United States Patent and trade Mark.
We quote in
1 oz. cartons..... $1.00
In lots of 25 ozs.. ..... .95
" " 100 ozs..... .90
We prepare Pills of Phenacetine-Bayer tablets, 2 grs. 4 grs. and 5 grs. each.

ARISTOL.
Aristol is protected by U. S. Trade Mark. Patent applied for.
Aristol, a combination of Iodine and Thymol, is manufactured by Farbenfabriken formerly Friedr. Bayer & Co., Elberfeld, Germany.
It is a valuable, inodorous and non-toxic Antiseptic remedy said to be superior to Iodoform, Iodole and Sozo-Iodole.
We quote:
In 1 ounce cartons. ....$1.80 per oz.
In lots of 25 ounces .... 1.70 per oz.

W. H. Schieffelin & Co.,
170 & 172 William St.,
NEW YORK,
SOLE LICENSEES AND SOLE AGENTS FOR THE UNITED STATES.

NEW YORK
Quinine and Chemical Works LIMITED.
Office, 114 William St. New York.
MANUFACTURERS OF
QUININE ACETANILID,
MORPHINE,
SANTONINE, ALOIN, COCAINE.

McKESSON & ROBBINS,
Sole Agents for the United States for the Sale of
EXALGINE. The New Analgesic.
DIURETIN. The New Diuretic.

ROSENGARTEN & SONS, 12 Gold Stree . New York.
MANUFACTURING CHEMISTS, Philadelphia.

Quinine, Cinchonine, Cinchonidine, Morphine, Codeine, Aqua Ammonia.	Sulphate and other salts of	Ammonium, Potassium, Sodium, Silver, Ammonium, Ether,	Bromide. Nitrate.	Hypophosphites, Purified, Bismuth, Subnitrate, Spirits of Nitre, C. P. Acids, Resublimed Iodine, Tannin.	

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MANUFACTURING CHEMISTS.
Mannheim, Germany, and 15 Cedar Street, New York.
Sulphate of Quinine,
Acetanilid, [Antifebrin.]
Muriate of Cocaine, Boehringer.
WRITE FOR SPECIAL QUOTATIONS.

Frankfort o/M. **ZIMMER & CO.** GERMANY.
OFFER TO THE TRADE THEIR STRICTLY PRIME
QUININE
on spot and for future delivery, in quantities to suit at lowest market quotations.
Represented by E. MERCK, 73 William St., New York.

Schoellkopf, Hartford & Maclagan,
Limited,
3 Cedar Street, New York.
WE OFFER ON SPOT:
CARBOLIC ACID,
Liquid for disinfecting.
NAPHTHALINE, Sublimed.
CHLORATE POTASH,
Crystals and Powder.

PURE DALMATIAN
UNCOLORED
INSECT
POWDER
S. & F. Brand.

We beg to call renewed attention to abov brand of strictly pure and prime Insect Powder, claiming that it is the best brand in the market, and we recommend it with confidence to the trade. It s put up in iron-bound oak kegs containing 110 pounds each. Each keg bears our label and guarantee; also burnt the wood on one end of the keg the following

S. & F.,
CLOSED,
110 POUNDS NET.

It is also put up in cans of ten pounds, one pound and quarter pound, each can bearing our label and guarantee. Our price will be at least as low as any powder of equal quality can be sold. To meet the competition of the trade, we offer a pure powder produced from a rather lower grade of flowers at a corresponding reduction in price, under the brand B. & Z., uncolored, in kegs of 120 pounds

STALLMAN & FULTON
IMPORTERS OF DRUGS,
No. 10 Cold Street,
NEW YORK.
For sale by the principal jobbing houses.

F. E. McALLISTER,
Seed Merchant and Importer,
22 Dey St., New York.
Canary, Rape and Hemp Seed, Mocking Bird Food, Mixed Bird Seed in cases, Bird Gravel, &c

REFINED CAMPHOR.
PHILLIPS & RUMNEY BRANDS,
Barrels, Cases (Squares in Paper.)
GOULD COMMERCIAL Co.
BOSTON & NEW YORK.

lower. We quote City refined at 9¼@9½c. and California at 9@9¼c. for lump or powdered as to quantity.

Citric acid has again been advanced by the American makers who are now quoting 41c. but are still restricting their offerings. From outside hands English is selling at 43@44c. There is an active demand.

Cuttlefish bone is unsettled and depressed owing to the renewal of sharp competition to sell. Low prices are named and since our last business has been done at 23@24c, which were the closing quotations.

Chloral hydrate remains firm at the late advance and is attracting some attention.

Codliver oil is not wanted to any extent, though very low prices are named as acceptable. The nominal quotations for Norwegian are $17@20, as to brand and quantity, but we hear it intimated that some business has been done at less.

Ergot is dull, and prices are almost entirely nominal. We hear of a few small sales within the range of our quotations.

Guarana is in very small compass, about all the cheap lots having been picked up. The general quotation now seems to be $2 50.

Hops show gradual improvement. The demand is better, but still does not exceed jobbing proportions. The choice grades are scarce and holders are indifferent sellers. We quote:

State, new, best	18½@19
State, do., good	16 @17
State, do., common	13 @14
State, 1888, best	11 @12
State, do., prime	10 @11
State, do., common	7 @10
State, 1887	3 @ 5
California, new, best	17½@18
California, new, good to prime	14 @16½
California, old, best	11 @12

Insect powder is moving off fairly in accordance with the current wants of the trade, but there is an absence of the activity usually noticeable at this time of the year. Prices are steady at 20@27c., as to brand, quality and quantity.

Manna continues to attract attention but only in a jobbing way. Prices are rather easy but without further change, and we continue to quote 27@28c. for small flake and 65@70c. for large.

Mercurials, sympathizing with the recent advance in quicksilver, are higher, being now quoted at 76@86c. for corrosive sublimate, 86c. for calomel, 96c. for red and $1 for white precipitate. Other kinds have advanced in proportion.

Nux vomica has arrived quite freely but we understand that the bulk of the stock was sold previously. The market is steady at 3½ @4c.

Quicksilver has again advanced in sympathy with cables from London, where Rothschilds' quotation now is £10 5s, the price from second hands closely approximating this figure. Here there has been a good demand with sales up to 73@74c, at which price the market closes.

Balsams.

There is not much doing in balsam copaiba and the market is rather easy at 50@55c for Central American grades, 55@60c for Para and Maranham and 60@70c for Angostura, as to quantity. Balsam fir is dull and nominal. For balsam Peru the market still has an upward tendency and 95c@$1 00 is now generally quoted. Balsam tolu is in fair demand and firm at 30@32c in a jobbing way.

Barks.

The near approach of the season for gathering fresh supplies of cascaria sagrada and the fact that samples of new bark are already here have a rather depressing effect upon the market and values are unsettled with a downward tendency. In the absence of demand, however, it is difficult to tell what will buy, previous prices being quoted nominally. Mail advices from London to the 10th inst. report a very dull market there with 40s. nominally quoted.

Essential Oils.

We find nothing particularly new to present in connection with this market. In a jobbing way business is but fair there is an absence of important business in any line.

Herbs and Leaves.

Since the failure of the effort to corner short buchu leaves the market has been unsettled with prices favoring the buyer. Prime green leaves are undoubtedly scarce but there seems to be enough of other kinds to satisfy the moderate wants of the trade. We hear of some sales of 25 bales at 7½@10c as to quality. There has been quite an active demand of late for sennas and we get sales of 50 bales Alexandria and 15 bales Tinnivelly on terms not made public. These transactions include about all the recent arrivals of natural Alexandria.

Gums.

Chicle and camphor are the only articles on the list in which there is anything more than usual interest shown. The former has sold up to 65c. during the week, and 70c. is now generally asked, while the latter is still quoted at 45c in barrels by the manufacturers but is procurable at less from second hands.

Roots.

Trading barely exceeds jobbing limits in any of the articles coming under this head and prices as a rule are well maintained.

Goldenseal has attracted a little more attention and we hear of sales of 6,000 lbs at 25@27c.

Jalap has been quite active, the demand being chiefly on export account. About 70 bls have been taken for export on private terms and the market shows a better tone at the close. These transactions include the bulk of the recent arrivals, and there is now little left in first hands and that is held at 25c. In a jobbing way 26@29c as to quantity is quoted.

Jamaica ginger is still tending upward. The few lots in first hands were picked up during the week, up to 15½c being paid. The jobbing quotations are 14½@16½c for unbleached, and 17@19c for bleached. The reported sales aggregate 150 bbls.

Sarsaparilla is firm, but unchanged. There have been no further important sales of Honduras, and we hear of nothing special going on in Mexican.

Senega is unsettled, as some dealers are evidently interested in bearing the market, as the season for gathering the new root approaches. We hear that some business has been consummated during the week on the basis of 36@37c, though for jobbing lots 38@39c is quoted.

Shellac.

Cables from London quote a much firmer market with an advance of 2s. on orange, 1s. on garnet and 5s. on button, and that sales of T. N. have been made there at 87s. for September delivery. Stic lac is also quoted higher from London and Calcutta, and holders here have advanced their quotation to 20c. In orange grades there has been a fair business on the spot with an increase in the demand today when some 400 cases changed hands at full figures. The cheap outside lots have now been pretty well cleaned up and the market closes firmer and seems to be on the eve of an advance.

Spices.

The market for spices presents few new features. An easier feeling is noted in connection with pepper though prices have not quotably changed. Cassia has an upward tendency and some grades are higher. Cloves are firm but quiet. Nutmegs are firmer and tending upwards. Gingers are in active request and higher prices are demanded for some kinds. Red pepper has advanced slightly. Other goods are about the same as when we last wrote.

The friends of Mr. John L. Kahl, the drug broker, will congratulate him upon his recovery from a serious illness extending over three weeks.

Mr. E. Marchi has recently removed his office to 99 Maiden Lane.

Mr. C. H. Dietz has received the first samples of new German chamomile flowers, crop of 1890.

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A Study in Drugs.

BY E. M. HOLMES, F.L.S.

On the continent the microscopical study of drugs has been as much developed as it has been neglected in this country, and the minute structure of most of those in ordinary use has been carefully made out and illustrated by Berg, Moeller, Vogl, Heriandt and Godfrin and Noel and others. The study of drugs from this standpoint has received the appropriate name of pharmacognosy, whilst the branches of materia medica relating to their physiological action and employment as therapeutical agents has been termed pharmacology.

Owing also to the vast strides that have been made in chemistry during the last twenty-five years, many of the bodies formerly known only as occurring in drugs have been prepared artificially, and have been shown to belong to groups of carbon compounds that have now been largely worked out. Such bodies are therefore now relegated to chemistry and are dealt with under that subject. Botany also has received a strong impetus from the biological side, and the life history of plants has been more closely studied. This study has led to the discovery of agents either occurring in plants as natural constituents, like papain, diastase, emulsin, myrosin, etc., or external to them, such as saccharomyces, bacteria, etc., by which chemical changes in plants or plant products are brought about. New methods of investigation by means of micro-chemical reagents have also been introduced. For this reason the comparatively small amount of botanical knowledge formerly thought necessary for the equipment of the pharmacist has been considerably extended, and botany in its modern sense is now taught as a distinct subject.

The impossibility of taking chemistry out of materia medica is evident from the fact that many of the chemical bodies obtained from plants have not been studied further than the mode of extracting them, and their exact place in chemical classification is still undetermined; as, for instance, the active principles of Indian hemp, ergot, lobelia and many others. New articles of materia medica are constantly being introduced, and the chemistry of materia medica can therefore never be entirely eliminated from it. Botany also cannot be entirely taken from materia medica, since the latter represents an amount of detail, that could not be included in an ordinary botanical course. Thus botany may teach the general morphology and structure of a typical solanaceous plant, but it does not enable the botanist to indicate the differences of structure that will be present in any given species, nor will the science of the chemist enable him to point out what chemical difference will exist in the constituents of any plant which has not been examined. An analytical chemist may be very high up in his profession, and yet be unable to accurately discriminate between one crude drug and another, and a botanist who has not paid special attention to the structure of drugs would not be prepared to say whether a given fragment of a leaf were that of stramonium, henbane, or belladonna; or whether another was conium or chærophyllum; or to distinguish between the leaf of digitalis and inula conyza. The aid of the microscope, however, enables the student to ascertain with certainty whether or no he has a genuine drug or a substitution or an adulteration under his eye.

During the time that it has been my privilege to teach this subject in the limited sense above indicated I have been struck with the very unsatisfactory state of our knowledge with regard to many articles of materia medica. In some the active principle has never been isolated, in others several different bodies have successively been stated to represent the activity of the drug, and in others, again, we are in total ignorance of the state of combination in which the active principle exists in the plant, and whether or no the natural compound possesses any advantage from a theoretical point of view over the commercial and official preparations. In the case of many essential oils we know very little of their composition and still less of the conditions under which they vary. Again our ignorance of a large class of amorphous bodies, possessed apparently of physiological action, is concealed under the term of "resinoid" applied to them.

I will now first direct your attention to some of the more powerful and to some of the more commonly used, and therefore more important articles of medicine.

Aconite.—Notwithstanding the investigations that have been carried out by Groves, Duquesnel, Williams, Paul and Kingzett, Richards and others, there still remains so great a variation in the active principle of this drug, as supplied in commerce, that the preparation of one manufacturer is stated to be seventy times as strong as that of another, and German aconitine is said to be ten times less active than the crystalline alkaloid. There is no good chemical test known, by which this alkaloid can be detected in cases of poisoning, the physiological test being the only reliable one, and we are not yet in a position to say how far manipulation in the preparation of the alkaloid may affect its composition. With regard to the botany of the drug, the root as met with in commerce is generally of German or Japanese origin, the former being collected indiscriminately from plants which may vary as widely in properties as A. heterophyllum and A. ferox, and which certainly do vary as much as A. Napellus and A. paniculatum. The Japanese drug has been shown by Bartholow to contain an alkaloid having a physiological action very different from that of A. Napellus. The problem here, then, is how to obtain aconite root of as uniform strength as possible, how to ascertain the chemical purity of the alkaloid, and how to determine the alkaloidal strength of preparations of aconite.

Aloes.—It is a well-known fact that aloin does not represent the entire activity of the drug, and that its action is so uncertain that it has been omitted from the U. S. P. The causes of the absence of the crimson color when true socotrine aloes is tested with nitric acid has not been made out, though possibly due to the oxidation products not yielding either aloetic or chrysammic acid.

Apomorphia.—The aqueous solution readily turns green on being warmed or exposed to to the air and light, but the body to which this coloration is due does not appear to have been examined.

Belladonna.—A great deal has already been done to elucidate the chemistry of this plant by Ladenburg, Schmidt Will and Bredig, Durstan and Ransom, Gerrard and others, yet it cannot be said decidedly at the present time whether or no atropine and hyoscyamine are both present as natural constituedts of the plant. A ready means of ascertaining if the hyoseyamine of commerce be that article or athropine, or hyoscine, also still appears desirable.

Cannabis Indica.—The number of bodies that have been extracted from this plant and described as its active principle is almost as great as in the case of ergot, yet none of them seem to represent the activity of the drug so well as the purified resin. A definite chemical body which can reasonably be claimed to be the active priuciple, has yet to be determined. When this has been done it would not be surprising to find the use of Indian hemp largely extended. At present the crude drug varies exceedigly in strength according to the climatic conditions under which the plant has been grown.

Curare.—The active principle of this drug has hitherto been obtained only in an impure state, but the bark of one of the principal plants used in its preparation, viz., Strychnos toxifera, has recently undergone investiation in Edinburgh.

Colchicum.—The chemistry of this important drug also requires further elucidation.

Croton Oil.—The drastic principle of this oil yet remains to be isolated, and the nature of the vesicating principle, although stated to be easily separated by alcohol, has yet to be made out.

Ergot.—The only really satisfactory preparation of ergot at present in use is the fluid extract known as "Bonjean's ergotine." Neither sclerotic acid, ergotine, nor any of the numerous bodies described as the active principle of ergot, appear to be so satisfactory as the crude drug. Tanret's ergotine is a fairly definite crystalline body, which, however, soon loses its ecbolic property on keeping, and this fact seems to indicate that in ergot it may be combined with some acid to form a salt that does not readily undergo change. If this be so, it opens up a line of inquiry which may lead to useful results, viz., how far are the natural compounds of the active principles of plants superior to the pure isolated active principles.

Lobelia inflata.—The chemistry of this plant still requires investigation. The Messr. Lloyd have evidently obtained a body possessing an emetic property comparable to that of apomorphine, but what relation it bears to the body formerly called the active principle, and which was stated to be a liquid alkaloid, is not clear.

Lupulus.—The chemistry of the hop is by no means thoroughly worked out. The activ principle appears to be a body that readily undergoes change, and although a bitter principle has been extracted under different names, it has not been shown, I believe, that the narcotic properties of the plant are due to it.

Rhamnus Purshianus.—The exact nature and chemical composition of the purgative principle of this bark as well as of R. frangula has yet to be decided.

Rhubarb.—The purgative principle or principles of this drug cannot be said even yet to be clearly known. The substance described under the name of phœoretin and supposed, together with emodin and chrysophanic acid, to be the purgative principles does not appear to have been clearly defined, and the medicinal properties of the neutral principle and white resin extracted from rhubarb have not been ascertained.

Ricinus.—During the last few months a body of an albuminous nature, named ricin, possessing powerful toxic properties, and apparently capable of employment in surgery, has been discovered in castor oil seeds, but there is no evidence to show that this is the purgative principle of the oil, which appears to be unknown.

Taraxacum.—The diuretic principle of this root has not, that I am aware of, ever been determined.

Veratrine.—The veratrine of commerce is recognized as a mixture of alkaloids, without any definition (beyond that to be inferred from their solubility in ether) of the alkaloids it contains. But so many bodies are soluble in ether that a more accurate means of ascertaining the uniformity and consequent strength of the commercial product is desirable.

The points above enumerated by no means exhaust the list of problems that require solution.

Of the active principles of less important drugs which are practically unknown, I may mention that of Indian bael; the acrid principle of mezereon; the bitter principles of myrrh and elemi, of chamomile and Prunus serotina, and of pale catechu; the diuretic and purgative principle or principles of elder, and the purgative principle of cassia fistula. The last mentioned drug is such an excellent purgative that it is strange an attempt has not been made to separate the active principle and present it in a palatable form in small doses.

The acids or bodies holding active principles in solution in aqueous menstrua, have not, I believe, been described in the case of Pareria brava, cocculus indicus, cusparia, quassia, broom, physostigma, elaterium, colocynth, santonica, arnica, taraxacum, spigelia, capsicum, digitalis, Indian hemp, cascarilla, kousso, pepper, cubebs, serpentary, and areca nut.

There are also several questions of considerable biological interest arising out of materia medica which suggest themselves as likely, if investigated, to lead to very important results.

Thus the disappearance of mannite in the olive fruit, in proportion as the oil is formed, requires explanation, and the subject if carefully studied might lead to considerable light

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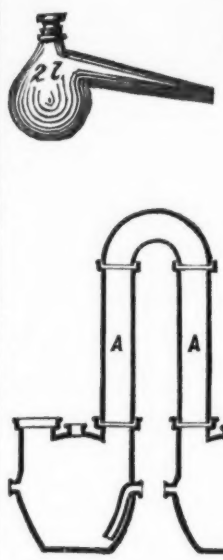

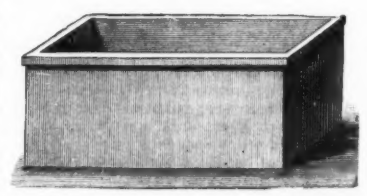

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being thrown upon the change of carbohydrates into fatty bodies.

The investigation of the production of wax upon the surface of fruits, as in Myrica cerifera, etc., might give further light in the same direction.

There is still room also for the systematic botanist to add to our stock of knowledge of the plants used in medicine. The species of balsamodendron yielding myrrh and the allied gum resins, in Somali Land and the southern part of Arabia, east of Aden, are still very imperfectly known, and most of the natural herbaria in Europe are, I believe, without characteristic specimens of the myrrh plant. Asafœtida has been shown by Aitchison to be the product of Ferula fœtida, and by Dymock Ferula alliances has been proved to be the botanical source of the hing or asafœtida used in India; but it still remains to be shown whether any commercial asafœtida is obtained from the other reputed sources of the drug.

In Sumatra three varieties of benzoin are produced, that of Palembang having a vitreous fracture and a comparatively feeble odor, and that of Penang having a strong storax odor but otherwise resembling the ordinary Sumatra kind (which has the ordinary benzoin odor, and is produced in the Batta country). It is not definitely known what tree produces the Penang and Palembang varieties, although Styrax subdenticulatum has been suggested as the source of the Penang kind, nor has the mother plant of Siam benzoin been described. The plant that yields the St. Ignatius bean of commerce is still almost unknown in European herbaria, at least as regards its flowers, and the trees yielding coto and paracoto bark have never been ascertained. The botanical sources of the various sarsaparillas will still bear a very considerable amount of investigation, good herbarium specimens, having both kinds of flowers, which are borne on distinct plants, are entirely wanting in herbaria. The plants actually yielding the commercial varieties of aloes, except the true socotrine, cannot be said to be definitely known, especially those yielding the Natal hepatic Cape aloes, nor has the method of preparation in the case of true hepatic or hepatic Cape aloes been distinctly stated. The tree yielding sandalwood in Macassar is unknown, and that of Venezuela but imperfectly so. The species yielding the different commercial varieties of copaiba also require further investigation.—*Phar. Jour and Trans.*

Opium in China.

The British Consul writes that in the district of Tamsui, China, opium shows a slight increase in the the total amount imported, but the demand for Indian varieties continues to decline steadily in favor of the Turkey article. Eight year ago Benares, with a small quota of Malwa, took about 50 per cent. of the trade, the remaining moiety being divided between Persian and Turkey. Persian and Malwa have now practically disappeared; Turkey monopolizes about 80 per cent. of the demand, leaving only 20 per cent. to Benares. Indeed, as regards the port and neighborhood of Tamsui, Indian opium has been entirely driven out of the field; the import of Benares being solely for the supply of Lokkong (a small port half way between Tamsui and Taiwan) and the surrounding districts. It is also certain that the native drug is steadily gaining a footing in this neighborhood; as it does not pass through the foreign customs, statistics are not obtainable, but it is well known that there is a steady export of foreign opiums in native junks to the mainland, where they are exchanged for the opiums of Seech'uan and Yunnen, which are then brought back to Tamsui for local consumption. It is not improbable that there is also direct importation, for with the undoubted increase of a population which is notoriously addicted to opium smoking, there is no other way of accounting for the falling-off in the use of foreign opium, which has been a marked failure of recent years.

In the Wuhu district, though continuing to form by far the most valuable of the imports, shows a decrease of 26 per cent. when compared with 1888.

The total import for the last three years was as follows:

	Lbs.
1887	592,990
1888	464,668
1889	333,066

The dealers aver that the business in the foreign drug was carried on at a loss in 1889

The price of Malwa went down from £133 12s. per chest in February, to £117 12s. in December. Chinese opium averaged £81 10s. per 133⅓ lbs., the equivalent of a chest.

With the exception of two chests of Patua, the rest was Malwa.

It is estimated that 80,000 lbs. of Chinese opium were imported during the year; the most popular coming from Tang Shan Hsien and Feng Hsien, in the neighboring province of Kiangsu. A Seech'uan firm has just set up business here as well, and there is every probability of the native drug, which is now far better prepared than formerly, besides being so much less expensive than the Indian, coming more and more into favor.

Messrs. Zimmer & Co.'s Report.

In their annual report, Messrs. Zimmer & Co., of Frankfort on Main, discuss the prospects of the proposed cinchona bark syndicate in Ceylon. They apparently have little faith in the consummation of the project and point out that the difficulties in its way are exceedingly great. There are in Ceylon very nearly 1,000 planters, of whom all but a very few are dependent upon English capital for financial support.

A great part of the English money advanced to these planters was lent at the time when the anticipations of profit from cinchona growing were very large, and, owing to the decline in the industry, cannot be repaid at this moment. Many planters are, consequently, forced every year to consign their produce to their English creditors, and are therefore not able to dispose of it freely. This is the reason that, even if they were so minded, the bulk of the planters would not be capable to give efficient assistance to any syndicate, unless their present liabilities were first liquidated by a large bank. With regard to the Indian cinchona plantations, it is pointed out that in addition to the government gardens in the Neilgherries and at Sikkim there are a large number of private planters, mostly in the Wynaad district and in the Neilgherries, who own about five million trees. These plantations flourish very greatly, and the numerous cinchona diseases to which the trees are exposed in Java and Ceylon are unknown here, night frosts only causing occasional damage. Similar plantations have been established in other parts of the province of Madras, and also in Bengal, Coorg and Mysore, and some of them yield very considerable harvests. On the other hand, the cinchona gardens of Travancore, at the southern point of India, seem to have been much neglected lately. The following is the area of the Indian plantations:

	Acres.
Government plantations in Sikkim	2,208
Government plantations in Neilgherry	908
Private plantations in Bengal	1,355
Private plantations in Madras	6,444
Private plantations in Coorg and Mysore	2,000

The total export from India from October 1 to September 30 was:

	Lbs.
1886-87	1,586,900
1887-88	1,449,315
1888-89	3,074,098

With regard to the cinchona plantations in Java, it is shown that at the Government undertakings the total average cost of the dried bark, including shipment and sale expenses, is 20·38 cents per half kilo., and the gross proceeds 42·43 cents., showing a profit of 16·05 cents. per half kilo. The Leager plantations are the most profitable, as they yield an average of 50 cents, equal to a net profit of nearly 100 per cent. It must, however, be considered that the government plantations can be worked under exceptionally favorable circumstances. Referring to the market of druggists' barks during 1889 it is said that of the different varieties of Calisaya, Succirubra, and Ledgeriana a sufficient quantity is placed on the market to allow of an uninterrupted supply at cheap rates. Of these three the Succirubra is the most important, as all the newer Pharmacopœias prescribe this bark, either by preference or exclusively. Thus, for instance, in the Austrian Pharmacopœia calisaya and succirubra were formerly admitted, but now succirubra with a minimum alkloidal percentage of 3½ is permitted, while in the new Dutch Pharmacopœia from 5 to 6 per cent. is demanded.

Cinchonidine Sulphurate.—The use of this salt is decreasing every year, and while only a few seasons ago it was exported in enormous quantities to America, the consumption of it in that country has fallen off in an astonishing degree lately. The same is the case with the salts of cinchonine, although the sulphate now in the Dutch Pharmacopœia has maintained its place. The only exception is sulphate of quinidine. In the Asiatic barks which are now used principally by the manufacturers, the percentage of quinidine is so slight that its separation no longer pays, and towards the end of the year 1889 a very pronounced scarcity of this alkaloid suddenly showed itself, coupled with an equally sudden strong demand. This caused the prices to rise so suddenly that they almost equaled those of quinine, and it does not seem altogether impossible that one day quinidine will cost even more than quinine itself.

Quin. Arsenate.—In Southern countries there is a fairly considerable demand for this article, as the combined administration of quinine and arsenic is specially favored by many medical men as particularly efficacious in malaria.

Quin. Hydrochlorate.—This salt, specially recommended on various occasions by the best authorities on quinine salts, such as Binz and others, becomes more and more popular every year, and it seems as if in course of time it may altogether supersede the sulphate of quinine. Owing to its greater solubility and its greater power of agreeing with patients, it possesses pronounced advantages over the sulphate.

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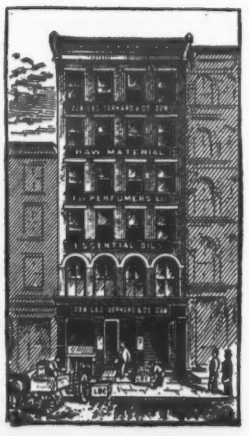

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Yellow Summer Prime	37½	@38
Yellow Summer, off qual	33	@35
Yellow Summer, cooking	—	@—
White Summer	—	@37
Yellow Winter	45	@49
White Winter	44	@49
Soap stock	1¾	@1½
Olive	82	@84
Soap Stock	—	@ 6½
Palm, prime ℔ lb	—	@ —
Off quality	5	@ 5½
Cocoanut, Domestic	—	@ —
Ceylon	5 90	@ 6
Cochin	—	@ 6¼
Cuban	—	@ —
Castor, No. 2	—	@13
No. 3	—	@11¼
Poppy	57	@63
Maize	—	@60
Rosin, first run ℔ gal	—	@ 9
Second run	—	@11
Third run	—	@14
Fourth run	—	@17

Animal and Fish Oils.

Whale, natural winter ℔ gal	—	@47
Natural spring	46	@—
Bleached spring	48	@49
Bleached winter	49	@50
extra bleached winter	54	@55
Sperm, natural winter	74	@77
Bleached winter	79	@82
Natural spring	67	@69
Bleached spring	72	@74
Sea elephant, bleached winter	—	@62
Unbleached winter	—	@—
Lard prime city	53	@54
prime, western	—	@53
Extra No. 1	43	@48
No. 1	40	@42
No. 2	35	@37
Menhaden, prime crude	24	@25
Prime southern	—	@22
Brown strained	26	@27
Light strained	26	@—
Extra bl'ch'd winter white	36	@—
Bleached winter	31	@32
Bleached spring	30	@31
Bank	24	@—
Straits	25	@—
Herring	—	@—
Oleo	—	@—
Cod, Domestic, prime	31	@34
Black Fish, Crude	—	@—
Natural	—	@—
Bleached Winter	—	@—
Degras, English	3½	@ 3¾
French	—	@—
Tallow, Prime	48	@50
Neatsfoot, Prime	57	@60
No. 1	45	@55
Elaine Red	33	@36
Saponified Red ℔ lb	4½	@ 5

Mineral Oils.

Paraffine, High viscosity ℔	19	@22
23½@24 gravity	12½	@13
25 gravity	11¼	@12
28 gravity	10¼	@11
Red Paraffine, 21 @22 gravity	—	@14½
22½@23 gravity	—	@13
Neutral filtered, lemon, 33@34 grav	22	@25
white, 33@34 gravity	33	@35
32@34 gravity, bloomless	10	@18
32 gravity, wool grade	13½	@15
West Virginia, natural 29 gravity	23	@25
Franklin, natural, 32 gravity	—	@—
Smith's Ferry, 33@34 gravity	7½	@ 8
Black reduced, 29 gravity, 25@30 c. t.	8½	@ 9
29 gravity, 15 cold test	9	@ 9½
29 gravity, zero	—	@ —
Summer	7	@ 8
Cylinder, light filtered	15	@20
dark filtered	14	@21
extra cold test	—	@—
dark steam refined	10	@18

Oil Cake.

Calcutta cake, city ℔ ton	—	@26 00
City domestic	—	@ —
Western, in bags	—	@22 50
Cottonseed cake at Memphis	—	@17 50
do do New Orleans	21 00	@21 75

Oil Meal.

State domestic meal ℔ ton	—	@26 00
Cottonseed meal at Memphis	—	@16 50
do do New Orleans	20 50	@ —

Wax Candles, Lard Tallow, Etc.

Paraffine wax, crude, 124@126 m p ℔ lb	—	@ 5½
128@130 m. p	—	@—
refined 135 m. p	9	@ 9½
Candles, Paraffine, 4s and 6s	9	@11
12s	9	@12
Adamantine, 6s, 16 oz	9	@10
14 oz	8	@ 9
12 oz	7	@ 8
12s, 16 oz	10	@11
14 oz	9	@ 0
12 oz	8	@ 9
Patent sperm, 4s and 6s	—	@42
Sperm, 4s and 6s	—	@40
Stearic acid	10	@11
Spermaceti	40	@42
Lard	5 80	@7 30
Stearine	5½	@ 8¼
Tallow	4½	@—

Naval Stores.

Sp. turpentine —	@30	Low	2 30 @2 40
Str'd rosin	1 40	G	@— K 2 50 @2 55
Good str'd	1 45	@—	M — @2 65
No. 1	1 50	@1 55	N — @2 80
No. 2	1 70	@—	W G — @2 90
Pale	1 80	@1 90	W W — @3 00
Extra	2 05	@2 10	

Paints, Varnishes, Etc.

White Lead, Zinc, Etc.

American Dry White Lead ℔ lb	6¾	@7¼
Pure White Lead, in oil		@7¾
English White Lead, in oil	8¼	@8¾
Zinc White, Paris, G S, 50 bbls	7½	less 4 ℔ ct
G S, 25 bbls	7½	2 ℔ ct
G S, 10 bbls	7½	1 ℔ ct
R S, 50 bbls	7½	4 ℔ ct
R S, 25 bbls	7½	2 ℔ ct
R S, 10 bbls	7½	1 ℔ ct
Antwerp R S, 50 bbls	6¾	4 ℔ ct
R S, 25 bbls	6¾	2 ℔ ct
R S, 10 bbls	6¾	1 ℔ ct
G S, 50 bbls	7½	4 ℔ ct
G S, 25 bbls	7½	2 ℔ ct
G S, 10 bbls	7½	1 ℔ ct
G S in poppy oil	10	@10¾
R S in poppy oil	9¼	@10
French in Varnish	16	@20
American Extra Dry	4½	@ 4½
Off color	4	@ 4½
In oil	6¼	@6¾
In varnish	14	@18¾
L. Z. O. German zinc	6¼	@ —
China white	10¼	@12
Flake white	10¼	@12
Cremnitz white	15	@20

Dry Colors.

REDS.

Carmine No. 40 ℔ lb	3 10	@4 20
Crocus martus, imported	1¼	@ 2¼
Standard American	1¼	@ 2¼
Colcothar	3½	@ 6
Indian red, American	3½	@ 6½
Standard American	2	@ 3
English	5½	@ 7
Tuscan red, English	9½	@ 11
Turkey red, English	9½	@ 14
Litharge, English flake	9	@ 9½
American powdered	7½	@—
Red lead, English	8½	@ 9
American	7	@ 7¼
Orange mineral, English	8¾	@ 9½
French	9½	@ 9¾
German	8¾	@ 9½
American	8	@ 8½
Rose pink, English	9	@ 9½
American	8	@ —
Vermilion, imported English	—	@ 85
Am. quicksilver, bulk	70	@ 71
Am. quicksilver, bags	71	@ 75
Chinese	88	@ 90
Trieste	87½	@ 90
American	11½	@ 12
Artificial	8	@ 35
Venetian red	1 40	@1 50
English prime	1 40	@1 50
second quality	1 05	@1 25
American	1 00	@1 35

YELLOWS.

Chrome yellow	10	@ 25
Ocher, Rochelle	1 35	@1 50
Washed Dutch	5	@ —
Washed French	1½	@ 2¼
Washed Nat Oxford, Lump	6¼	@ 6¾
Washed Nat Oxford, Powd'r	7	@ 7½
Golden	3½	@ 4
Domestic	¾	@ 1¼
Domestic, for O C & W P	¾	@ 1

GREENS.

Chrome, Chemically pure	22	@26
Extra	12	@13
Super	9	@11½
Common	—	@ 8
Paris, Pure	14	@14½
In pulp	11	@12
French Verdigris	40	@42

BLUES.

Chinese Blue	45	@50
Prussian Blue	20	@35
Soluble Blue	40	@55
Ultramarine Blue	7	@25
Celestial Blue	5½	@ 8
Blue verditer	25	@30
refiners'	60	@70

BROWNS.

Sienna, Italian, burnt & powdered	5	@ 6½
burnt lumps	1¾	@ 3½
raw powdered	5	@ 6½
raw lumps	1¾	@ 3½
American, burnt & powdered	1¼	@ 1¾
raw	1¼	@ 1¾
Umber, Turkey, burnt and powdered	3½	@ 4
burnt lumps	2½	@ 3
raw and powdered	3½	@ 4
raw lumps	2½	@ 2¾
American, burnt	1½	@ 1¾
raw	1¼	@ 1¾
Vandyke brown, German	6	@ 8
American	3	@ 3¾
Spanish brown	¼	@ 1

Miscellaneous.

Barytes, prime white ℔ ton	19 50	@20 00
foreign floated	20 00	@21 50
domestic floated	26 00	@32 00
off color	14 00	@15 00
crude No. 1	8 50	@ —
No. 2	7 75	@ —
No. 3	7 50	@ —
Chalk	2 70	@ 3 00
kiln dried ℔ 100 lbs.	40	@ —
air dried	33	@ 35
China clay ℔ ton	13 50	@18 00
Cobalt oxide	2 60	@ 2 90
Feldspar ℔ ton	14 00	@ —
Silex	14 00	@25 00
Whiting, commercial ℔ 100 lbs.	45	@ 50
gilders'	50	@ 70
Paris white, English cliffstone	1 05	@1 15
American	65	@ 80
French talc	1¼	@ 1½
terra alba	90	@ 1¼
American terra alba No. 1	80	@ 95
No. 2	50	@ 55
Blanc fix ℔ lb.	2½	@ 3
Dentists' plaster ℔ bbl.	1 35	@ 1 50
Calcined plaster ℔ bbl.	1 25	@ 1 50
Marble dust ℔ bbl.	90	@ 1 00
Pumice stone, original cks. ℔ lb.	1¾	@ 2
selected lumps in bbls.	3½	@ —
powdered pure in bbls.	2½	@ 2½
Rotten stone original cks.	4½	@ 5½
selected lumps	6	@ 10
powdered, in bbls.	3½	@ 3½
Rubbing stone		@ 7
Bronze powder	—	@ —
Brocades	45	@ 1 00
Smalt, German blue	15	@ —
super black	—	@ —
Putty bulk	1¾	@ 2½
bladders	2	@ 2½
tins	—	@ 2½

Glues.

Extra white ℔ lb.	17	@20
Medium white	13	@15
Cabinet	12	@14
Low grade	8	@10
Foot stock, white	9¼	@13½
brown	4	@ 8
Irish	12½	@14½
French	9½	@22½
English	10½	@15

Metallic Paints.

Brown ℔ ton	$20 00	@25 00
Red	20 00	@25 00

Colors in Oil.

Black coach, Japan ℔ lb.	13½	@20
in oil	12	@13
Drop black	8½	@14½
Ivory black	8½	@14½
Lamp black	12	@20
Chinese blue	35	@40
Prussian blue	20	@45
Ultramarine blue	12	@18
Burnt sienna	7	@14
Raw sienna	7	@14
Burnt umber	7	@11
Raw umber	7	@11
Vandyke brown	7	@12½
Chrome green	8	@14
Paris green	16	@18½
English drop black	12½	@14
American drop black	7½	@10
Frankfort drop black	25	@30
Lampblack, prime	2½	@3
medium	2	@2½
2d quality	1¾	@19
low grade	6½	@10
Naphtha, black	60	@—
Fine calcined velvet black	16	@25
Medium calcined velvet black	12	@15

Varnish Gums.

Copal Sierra Leone, cleaned	37½	@42
Zanzibar, bold white	75	@85
medium white	70	@80
bean and pea	40	@45
Manila, pale	17	@20
bright amber	13	@15
standard	9	@10½
Damar, Batavia	16	@18
Kauri, standard	18½	@20
No. 2	12	@14
hard scraped	22	@24
light hard scraped	28	@30
picture quality	65	@70
pale and fine selected	42	@65
Sandrac	22	@30
Asphaltum, Cuban, prime	4½	@ 5½
sandy	4	@ 5
Egyptian	8	@ 9

Glass.

WINDOW GLASS.

AMERICAN AND FRENCH SINGLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x15	$12 50	$10 75	$10 00	$ 9 50
11x14 to 16x24	14 50	12 75	12 00	11 00
18x22 to 20x30	19 00	16 50	15 00	14 25
15x36 to 24x30	20 50	17 50	15 50	....
26x28 to 24x36	22 00	19 50	17 00	....
26x36 to 26x44	23 50	20 50	17 50	....
26x46 to 30x50	26 00	23 00	19 50	....
30x52 to 30x54	27 00	24 00	20 50	....
30x56 to 34x56	29 00	25 50	22 00	....
34x58 to 34x60	30 00	27 00	25 00	....
36x60 to 40x60	34 00	31 00	27 00	....

AMERICAN AND FRENCH DOUBLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th.
6x to 10x15	$17 00	15 00	$14 00	$13 50
11x14 to 16x24	21 00	18 50	17 00	....
18x22 to 20x30	26 50	23 50	21 00	....
15x36 to 24x30	29 00	25 50	22 00	....
26x28 to 24x36	31 50	27 50	24 00	....
26x36 to 26x44	33 00	29 50	25 00	....
26x46 to 30x50	36 00	32 00	27 00	....
30x52 to 30x54	38 00	33 50	28 50	....
30x56 to 34x56	40 00	35 00	31 00	....
34x58 to 34x60	33 00	39 00	34 00	....
36x60 to 40x60	47 00	43 00	35 00	....

Discount on French S. & D, 75, 10 & 5%.

Discounts on American, 80@80 &10%

Drugs.

Opium.

Opium, in bond ℔ lb.	2 45	@2 75
duty paid (cases)	3 45	@3 75
as wanted	3 50	@3 75
powdered	4 80	@5 00
Morphine	2 70	@2 95
foreign	2 65	@2 90

Quinine.

Quinine American ℔ oz.	31	@ 41
Italian	30	@ 39
German	26	@ 35
Cinchonidia, American	4	@ 5
foreign	2½	@ 5
Quinidine	60	@ 80

Miscellaneous.

Acid benzoic, German ℔ lb.	50	@ 55
English ℔ oz.	11	@ 12
boracic purified ℔ lb.	20	@
refined	14½	@ 14¾
flaky	14	@
carbolic, pure crystals bot	33	@ 35
drums	27	@ 28
citric, domestic	—	@ 41
foreign	43	@ 44
salicylic, bulk & boxes	1 20	@ 1 25
Alcohol, 94 p ct, free	1 98	@ 2 08
refi'd wood, 97 p ct	—	@ 1 25
95 p ct	—	@ 1 20
92 p ct	—	@ 1 15
Inodorous	1 52	@ 1 60
Cologne spirits, 188 p t	2 18	@ 2 28
Ambergris gray	45 00	@—
black	12 00	@15 00
Ammonia carb, foreign	7½	@ 8½
domestic	8	@ 8
Bay rum imp, bulk	1 90	@ 2 00
Barbadoes tar	32	@ 35
Borax, refined city, bbls ℔ lb.	9¼	@ 9½
Cal., bbls	9	@ 9¼
concentrated	8¾	@ 8¾
powdered	9¼	@ 9¾
Bromine	37	@ 38
Burgundy pitch	2½	@ 3
Cantharides, Russian	95	@ 1 00
Chinese	25	@ 30
Calomel, domestic	86	@ 88
English	1 05	@ 1 10
Castile soap, white	10¾	@ 11
green, pure	6½	@ 9
mottled ordinary	4½	@ 4¾
pure	5½	@ 6
Chian turpentine ℔ oz.	45	@ —
Chloroform	45	@ —
Colocynth apples, Trieste ℔ lb	45	@ —
pressed	38	@ 40
Spanish	25	@ 30
Cacao butter	32½	@ 40
Chloral hydrate, crystals	1 60	@ —
plates	1 30	@ —
Corrosive sublimate	76	@ 86
Cuttlefish bone, Trieste	23	@ 24
Dragon's blood mass	23	@ 28
reed	40	@ 45
Ergot, Spanish	35	@ 45
German	30	@ 34
Gelatine, English	50	@ 60
French	30	@
American	85	@
Glucose	2½	@ 3
Grape sugar	2½	@ 3
Glycerine, German, refined, dms	18	@ —
Amer'n, ref. bbls & cs	17½	@ 20
No. 1	10½	@ 18½
Glycerine, crude	11	@ 12
Guarana, whole	—	@ 2 50
Powdered	2 70	@ 2 75
Iceland moss	5	@ 5
Indian hemp (Canabis In)	7	@ 10
Insect powder	20	@ 27
Irish moss	6½	@ 12
Isinglass, Russian	3 70	@ 3 75
American ordinary	68	@ 75
prime	90	@ 1 50
Iodine, re-sublimed	3 30	@ 3 35
Licorice paste, domestic	6	@ 15
foreign	24	@ 30
Lupulin, American ℔ lb	—	@ 60
German	30	@
Lycopodium, prime	33	@ 34
Manna, large flake	65	@ 70
Small flake	27	@ 30
Sorts	24	@ 25
Menthol	2 50	@ 2 75
Musk, true grain ℔ oz	12 00	@32 00
pods	6 00	@23 00
Canton grains	20	@ 1 00
Nitrate barium ℔ lb	7½	@ 8
Strontia ℔ lb	9	@ 9½
Nux vomica, pockets ℔ lb	3½	@ 4
Oil, Almond, sweet	25	@ 45
Myrbane, American	16	@ 18
English	16	@ 18
German	—	@
Sesame ℔ bbl	70	@ 75
Castor, city, bbls & cases	14½	@ 15½
Cod liver Norwegian ℔ bbl	17 00	@22 00
Newf'land ℔ gal	55	@ 65
Phosphorus ℔ lb	70	@
Precip, red	96	@ 98
White	1 00	@ 1 03
Precipitated chalk, Eng. bk	4½	@ 5
bbls	7	@ —
Potassium, bromide, bulk	33	@ 34
glass	42	@ 45
Iodide, bulk	2 65	@ 2 70
glass	2 73	@ 2 78
Quicksilver	73	@ 75
Sago, pearl	3½	@
Flour	3½	@ 4
Sugar of milk cob	16	@ 16½
Powdered	15	@ 15½
Sulphur, roll	—	@ 2
Flour	—	@ 2
Salicine	1 70	@ 1 75
Tamarinds ℔ keg	2 00	@ 2 25
Venice turpentine ℔ lb	18	@ 20
Wax, brown southern	25	@ 26
State	26½	@ 27
White, pure	40	@ 45
Japan	9	@ 9½
Carnauba	11	@ 14
Ceresin	10½	@ 11

Balsams.

Copaiba, Angostura ℔ lb	60	@ 70
Para	55	@ 60
Central American	50	@ 52
Fir, Canada ℔ gal	2 10	@2 20
Oregon	1 10	@1 10
Peru ℔ lb	90	@1 00
Tolu	30	@ 32

Barks.

Angostura ℔ lb	12	@ 14
Bayberry	5	@ 6
Buckthorn	5	@ 6
Cascara Sagrada	7½	@ 10
Cascarilla	5½	@ 8
Canella	8	@ 10
Cinchona, red	25	@ 28
yellow	12	@ 28
Coto	60	@ 75
Elm, common	7	@ 10
selected	13	@ 14
Loxa	—	@ —
Oak, white	3½	@
red	3½	@
Orange peel, West Indian	5½	@
Malaga prime	5	@ 10
Curacoa	7	@ 8
Prickly ash	7	@
Pomegranate (of root)	10	@ 25
Quebracho	12	@
Sassafras	7½	@
Simaruba	10	@ 12
Soap, whole	4½	@ 5
crushed	5½	@ 6

Beans.

Vanilla, Mexican ℔ lb	4 50	@10 00
Bourbon	3 00	@ 6 00
Tonka, Angostura	1 95	@ 2 10
Surinams	—	@ 1 20
Para	—	@ 1 10
Calabar	22	@ 25
St. Ignatius	14	@ 15

Berries.

Cubeb ℔ lb	1 25	@ 1 45
Juniper	2½	@ 2¾
Fish (Cocculus Ind)	4½	@
Laurel	5	@ —
Prickly ash	16	@ 18

Essential Oils.

Anise ℔ lb	1 55	@ 1 60
Almond (bitter)	2 50	@ 2 75
Bay, ℔ bottle of 22 ozs	6 00	@ 6 25
Bay oil, ℔ lb	—	@ 4 50
Bergamot	2 00	@ 2 90
Cajeput	65	@ 80
Camphor	8½	@ 10
Caraway, seed	1 05	@ 1 40
chaff	40	@ 52
Cassia	1 10	@ 1 20
Citronella	28	@ 31
Clove, stem	1 00	@ 1 05
bud	1 05	@ 1 10
Copaiba	1 00	@ 1 10
Croton	95	@ 1 00
Cubebs	18 00	@—
Fennel	85	@ —
seed	1 50	@ —
Geranium, Turkish	3 00	@ 3 50
Rose, French	8 00	@ 9 50
Gingergrass	2 00	@ 2 25
Juniper, once rect	1 00	@ —
twice rect	1 50	@ 2 00
wood	25	@ 40
Lavender, garden	40	@ 65
flowers	1 60	@ 1 75
Lemon	1 00	@ 1 45
Lemongrass	55	@ 60
Neroli, bigarade	42 50	@45
Portugal	25 00	@27 50
Petale	50 00	@55
Nutmeg	2 25	@ 2 50
Orange, sweet	1 80	@ 1 85
bitter	3 00	@ 4 25
Origanum	18	@ 25
Peppermint, tin cans	1 80	@ 2 40
cases	2 45	@ 2 70
Pennyroyal	1 35	@ 1 50
Rose, ordinary ℔ oz	4 15	@ 4 25
special brands	4 30	@ 4 45
Rosemary, Trieste ℔ lb	55	@
French	30	@ 70
Flowers	80	@ 1 10
Sandalwood	2 25	@10 00
Sassafras	37	@ 40
Spearmint	1 85	@ 2 15
Tansy	1 70	@ 1 80
Thyme, red	57½	@ 90
white	90	@ 1 10
Wintergreen	1 70	@ 1 80
Wormseed	1 25	@ —
Wormwood	3 50	@ 4 00

Flowers.

Arnica ℔ lb	7	@ 8
Chamomile, German	12	@ 20
Roman	9	@ 12
Insect	18	@ 50
Lavender	3	@ 7
Rosemary	15	@ 20
Saffron, American	24	@ 25
Alicants	6 50	@ 8 5
Valencia	14 50	@15 50

Gums.

Aloes, Cape ℔ lb	5	@ 6
Barbadoes	15	@ 20
Curacoa	4	@ 4½
Socotrine		@ 40
Arabic, 1st picked	62½	@
2d picked	70	@

3d picked		64½@	67
4th picked		54½@	57
Sorts		45 @	60
Siftings		25 @	40
Senegal, picked		43 @	45
sorts		28 @	28
Asafœtida		7½@	15
Benzoin		25 @	40
Camphor, refined, in bbls		45 @	—
in cases		46 @	—
Chicle		— @	70
Euphorbium		15 @	17
Gamboge pipe and block		57½@	60
Gedda, siftings		18 @	20
sorts		— @	—
Guaiac		40 @1	25
Kino		10 @	12
Mastic		72 @	75
Myrrh		23 @	28
Olibanum, tears		14 @	16
sorts		6½@	7½
Sandrac		22 @	23
Scammony, Aleppo		2 25 @3	00
Virgin		6 00 @6	50
Tragacanth Aleppo, 1st flake		46 @	50
2d flake		39 @	42
3d flake		34 @	36
Turkey, 1st flake		70 @	75
2d flake		52½@	55
3d flake		40 @	45

Herbs and Leaves.

Aconite	℔	9 @	11
Althea		8 @	10
Belladonna		12 @	15
Buchu, short		7 @	10
long		15 @	17
Coca		16 @	28
Damiana		17 @	19
Digitalis		6 @	9
Eucalyptus		4 @	5½
Grindelia robusta		12 @	14
Henbane (hyosciamus)		9 @	12
Horehound		6 @	8
Jaborandi		40 @	—
Laurel		3½@	4
Lobelia		4 @	7
Matico		18 @	20
Marjoram, German		14 @	20
French		14 @	—
Prince's pine		— @	8
Rose, red		90 @1	15
pale		30 @	40
Rosemary		3 @	4
Sage, Italian		6 @	6½
Senna, Alex. nat		19 @	20
siftings		13 @	14
garbled and sifted		25 @	28
Tinnivelly		8 @	18
Thyme		4½@	10
Uva Ursi		4 @	5
Yerba Santa		10 @	12

Roots.

Aconite	℔	9½@	10
Alkanet		7 @	9
Althea, whole		18 @	21
cut		18 @	20
Angelica, German		10 @	12
American		9 @	10
Arrowroot, Bermuda		31 @	35
St. Vincent, bbls & cns		6½@	7
Jamaica		10 @	11
Arnica		7½@	8
Belladonna		8 @	12
Blood		5½@	6
Burdock		7½@	8
Calamus, bleached		18 @	20
unble'd, split & peeled		7 @	10
Canada snake, select		— @	—
Colchicum		— @	15
Colombo		10 @	12
Culvers		10 @	11
Dandelion, German		10¼@	11
American cut		12 @	14
Elecampane		5 @	5½
Galangal		5 @	6
Gentian		3½@	3¾
Ginseng		2 80 @3	00
Ginger, Jamaica, unbleached		14½@	16½
American, bleached		17 @	19
Lonoon, bleached		17 @	19
Golden seal		25 @	28
Hellebore, white, powdered		— @	9
whole		6 @	7
Ipecac, Rio		1 95 @2	10
Jalap		25 @	29
Kava Kava		14 @	16
Lady slipper		55 @	—
Lovage, American		40 @	50
German		19 @	20
Licorice, ordinary		5 @	7
selected, in bdls		12½@	20
Mandrake		3¼@	5
Orris, Florentine		19 @	21
finger		40 @	70
Verona		8 @	12
Pareira brava		18 @	20
Pellitory		16 @	18
Pink		23 @	30
Rhatany		8 @	10
Rhubarb, whole		30 @	80
cut		45 @1	75
Sarsaparilla, Honduras		27 @	40
Mexican		8 @	8½
American		6 @	—
Senega, Southern		45 @	—
Western		37 @	39
Serpentaria, Texas		30 @	32
Stillingia		8 @	10
Squills, ordinary		— @	—
white, prime		4¾@	6
Valerian, German		10 @	11
Belgian		6 @	7
English		— @	15
Vermont		10 @	11
Yellow dock		7 @	9

Seeds.

Anise, Italian	℔	7 @	10
German		5½@	6
star		31 @	32½
Canary, Sicily		2¾@	3
Smyrna		2 @	2½
Spanish		2¾@	2¾
Caraway, Dutch		4¾@	5
German		— @	—
Cardamom, Alleppy		75 @	85
Malabar		75 @	95
Mangalore		65 @1	10
Celery		12 @	13
Colchicum		65 @	70
Coriander, English		3½@	3¾
French		4 @	4½
German		4 @	4½
Cummin		9 @	9½
Fennel, German		10½@	13
Fœnugreek		2½@	2¾
Guinea grains		18 @	—
Hemp, Russian		2¾@	2⅞
Smyrna		— @	—
Lobelia		25 @	30
Millet, domestic	bush.	1 10 @	—
foreign	℔	2¼@	2½
Mustard, California yellow		3½@	3½
brown		3¾@	4
Dutch		— @	—
English		4½@	5
Trieste brown		5½@	7
Poppy, white		5 @	5¼
Quince, German		28 @	35
Russian		20 @	22
Rape, domestic		3¾@	—
English		4¾@	5
German		3¾@	4

Shellac.

D. C.	℔	29 @	30
Octagon B		— @	—
V. S. O		23½@	24
Diamond I		23 @	23½
S. S		22½@	23
Garnet, A C		18 @	18½
T. N. quality		18 @	20
Natives		18 @	18½
Button		24 @	28
Bleached		25 @	27

Spices.

Cassia, Batavia	℔	D. 7¾@	8
China		— @	5
Saigon, rolls		31 @	32
broken		16 @	22
chips		4 @	8
buds		— @	16
Cloves, prime Zanzibar		12 @	12½
Amboyna		19 @	20
stems		3½@	3¾
Ginger, African		4¾@	5
Calcutta		4 @	—
Cochin		5¼@	16
Mace, Batavia		65 @	68
Banda		70 @	75
Penang		75 @	80
Nutmegs, 110's		63 @	64
Pepper, Singapore		11¾@	12
West Coast		11½@	—
Acheen, prime		11 @	12
Penang, white		16½@	17
Singapore, white		21½@	22
red, Zanzibar		8¾@	9
Bombay		6 @	6½
Pimento, prime		6¼@	6¾

Chemicals.

Heavy Chemicals.

Alkali, 36 ℔ cent		1 25 @1	40
refined, high test		1 25 @1	50
Bleach, over 35 ℔ cent		1 35 @1	50
Saltcake		62½@	72½
Soda ash, carb, 48 per cent		1 25 @1	50
high test		1 37½@1	50
Caustic, 48 ℔ cent		1 25 @1	50
high test		— @	—
Newcastle, 48 per cent		1 30 @1	50
high test		1 37½@1	50
Soda bicarb, English		2¾@	2¾
American		3 @	3½
carbonate		2 00 @2	25
caustic, 60 ℔ cent		— @	—
70 ℔ cent		2 45 @2	50
74 ℔ cent		2 45 @2	50
76 ℔ cent		2 55 @2	60
sal, English		87½@	95
American		1 10 @1	25

Acids.

Acid, acetic		1¾@	2½
chemically pure		16 @	17
pure		5½@	8½
oxalic		7½@	8
sulphuric, 60 deg		80 @	1¼
66 deg		85 @	1¾
muriatic, 16 deg		95 @	1¼
18 deg		— @	90
20 deg		1 @	1¾
22 deg		1¾@	2
nitric, 36 deg		3½@	4¼
38 deg		4 @	4¾
40 deg		— @	4½
42 deg		5¼@	6¾
tartaric, crystals		32 @	34
powdered		32½@	35

Ammonias, Potashes and Fertilizing Chemicals.

Ashes, pot, 1st sorts	℔	D. 4 @	4¼
pearl		5 @	5¾
Potash, chlorate, English		13 @	13½
powdered		13 @	13½
carb		4 70 @	5½
caustic		7½@	8
cyanide, fused		39 @	40
ob'm'ne salt 48@50%		1 12½@	1 20
sulphate of, basis 90%		2 37½@	2 45
Kainit, 23% S. of P.	℔	ton. 9 50 @11	00
Sylvinit, 27@35% S. F. P.	℔	unit. — @	45
Aqua ammonia (in cbys) 16%	℔	D. 3¾@	3¾
18%		— @	4¾
20%		— @	6
22%		6 @	7
26%		8 @	9
Ammonia, sal, rough		6¾@	7½
white		7¾@	8
lump		8½@	9
sulphate		3 10 @	3 20
Potash muriate, ℔ 100 ℔		1 77½@	1 87½

Ammoniates, Etc.:

Azotine, ℔ unit		1 95 @	2 05
Blood, dried, red, ℔ unit, west		1 90 @	1 95
low grade, ℔ unit		1 80 @	1 85
Concentrated tankage, ℔ unit		1 95 @	2 00
Bones, rough, ℔ ton		20 00 @	23 00
ground, ℔ ton		25 00 @	28 00
Bone black, refuse, ℔ ton		18 00 @	19 50
Kieserite		7 60 @	8 00
Fish guano, dried		21 00 @	22 00
acidulated		12 00 @	—
wet		10 00 @	10 50
Phosphate rock, f. o. b. Char'n		— @	—
undried		5 75 @	6 00
dried		6 75 @	7 00
ground		11 00 @	11 50
Acid phosphate, 14% per unit		77½@	82½

Miscellaneous.

Acetate of lime, gray		2 25 @	2 37½
brown		1¼@	1¼
Alum, lump		1¾@	2
ground		2 @	2½
Cake		1¾@	1¾
Argols, crude Oporto		3 @	3½
plate		21 @	23
half refined		— @	—
Arsenic, white		3½@	3½
red		5¾@	6¾
Brimstone crude, best 2ds		2 00 @	—
3ds		30 50 @	—
Copperas,		70 @	75
powdered		1¼@	1 12½
Cream tartar, crystals, 99 p. c.		26 @	28
powdered, 99 p. c.		26½@	28¾
Glauber salts		75 @	80
Epsom salts		— @	87½
Nitrate of lead		9 @	10
soda		1 75 @1	80
Rochelle salts		33 @	35
Sugar lead, brown		7½@	8
white		12 @	13½
Saltpeter, crude		5 10@	5½
refined		6 @	8
Vitriol, blue ordinary		5½@	5⅝
extra		— @	

Dyestuffs.

Acid picric best crystals	℔	D. 52½@	55
Albumen prime egg		43 @	50
imported blood		19 @	22½
domestic blood		17 @	19½
No. 1½ blood		15 @	—
Alizarine		18 @	21
Annatto		10 @	25
seed		4 @	6
Archil weed		7 @	15
Aurine		58 @	—
Barbary root, cut		4 @	—
Bichromate of potash, Scotch		10½@	11
American		10½@	11
Bichromate of soda		8½@	11
Carmine of indigo		40 @	—
Cochineal, Teneriffe silver		27 @	29
black		27 @	29
gray black		33 @	35
Mexican		— @	—
ammoniac		— @	37
Cudbear, French		12 @	—
concentrated		25 @	—
English		12 @	20
Cutch, slab		6¾@	7
bag		6 @	7
Dextrine		5½@	5¾
Divi divi	℔	ton. 47 00 @55	00
Fullers earth, lump	℔	90 @	95
powdered		1¾@	2
Flavine		27 @	28
Fustic stick	℔	ton 24 00 @26	00
Gambier	℔	D. 6 3-16@	6½
Garancine		8½@	9
Indigo, Bengal, low grade		75 @	85
medium		1 10 @	1 20
high grade		1 25 @	1 40
Caracas		— @	—
Kurpahs		75 @	1 05
Gautemalas		60 @	80
Manila		45 @	50
Madras		37½@	52½
Indigotine		3 00 @	4 00
Lac dye		9 @	15
Logwood stick	℔	ton 22 00 @36	00
Madder, Dutch	℔	D. 7½@	8½
French		5 @	7
Myrobalans		2 @	2⅝
Muriate of tin		8 @	13
Nitrate of iron, commercial		1¾@	2
true		4½@	5
Nutgalls, blue Alleppo		14 @	15
Chinese		16½@	18
Oxymuriate of antimony		4 @	6
Persian berries		16 @	18
Prussiate of potash, Am. yellow		19½@	20½
red		42 @	45
Scotch yel.		24 @	20
red		45 @	45
German yel.		20 @	—
red		45 @	45
Prussiate of soda		17½@	18
Phosphate of soda		7 @	8
Safflower		— @	—
Sago flour		3½@	3¾
Salts of tartar		6½@	7
Soluble oil		4 @	7¼
Sumac, Sicily prime	℔	ton. 61 00 @70	00
Virginia		55 00 @60	00
Starch, corn	℔	D. 2½@	2⅝
potato		4½@	4⅝
wheat		4¾@	6
Stannate of soda, 70% soluble		— @	15
Stannate of soda, 40% soluble		— @	12
25% soluble		— @	9
20% soluble		— @	8
Tin crystals		14¾@	17
Turmeric root, Alleppy		4 @	4½
Bengal		— @	—
Corringa		— @	3¾
powdered		5 @	6
Ultramarine, imported		20 @	30
American		5 @	16
Vanadiate, ammonium		90 @1	00
Woad, English		9 @	10

Coal Tar Colors:

Alizarine		19 @	21
Aniline oil		21 @	23
salt, crystals		19 @	21
cake		19 @	21
Bismarck brown		50 @	75
Eosine		2 40 @	3 00
Fast red		50 @	65
Fast yellow—acid		75 @1	50
Fuchsine crystals		1 25 @1	75
Hoffman's violet —3B		1 75 @2	50
Methylene blues		4 50 @	6 75
Methyl violets—2R		1 50 @2	00
2B		1 50 @2	00
B		1 50 @2	00
Nicholson (alkali) blue—3B		2 25 @3	00
5B		3 75 @4	00
Red shade		2 00 @2	25
Nigrosine		1 00 @2	00
Orange A—II		40 @	65
Safranine		1 75 @2	25
Scarlet R		45 @	55
RR		50 @	65
RRR		70 @	75
Soluble blue—green shade		2 00 @3	50

These prices are for colors of standard purity in original packages. Reduced colors can be obtained at irregular and very much reduced figures.

Chipped Dyewoods, Etc.:

Barwood	℔	1¾@	2¼
Camwood		4½@	8
Fustic, com		1¾@	1¼
Cuban		1½@	1⅝
Green ebony		3½@	4
Hypernic		3½@	4¼
Logwood, Campeachy		2 @	2½
Laguna		2½@	2¾
Nicwood		2 @	3
Peachwood		3½@	3¾
Quercitron		1½@	—
Redwood		2 @	3
Red sanders		— @	3

Extracts:

Archil	℔	D. 18 @	20
concentrated		21 @	25
Black oak		23½ @	28¾
Barberry, French		26 @	30
Chestnut		3½@	⅛
Chestnut oak		3½@	⅛
Refi'd sedimentless hemlock		4½@	⅛
Prime hemlock		2½@	⅛
Fustic, solid		10½@	⅛
liquid, 51 deg		7½@	⅛
Indigo extract		7½@	14
Logwood, solid		@	9¼
liquid, 51 deg		6½@	9
42 deg		5½@	6
Persian berries, French		24 @	26
Sumac Extract		3¾@	6¾

COMPARATIVE PRICES.

	1889.	1888.	1887.
Chemicals.			
Bleaching powder	1 60	1 85	1 85
Caustic soda, 70%	2 12½	2 22½	2 40
Caustic soda, 60%	2 35	2 40	2 67½
Sal soda	75	95	80
Soda ash, 48% carb	1 22½	1 25	1 25
Soda ash, 48% caustic	1 20	1 22½	1 20
Soda ash, 48-53% N. C.	1 12½	1 12½	1 15
Soda alkali, 58% B. M.	1 12½	1 12½	1 20
Soda nitrate	2¼	2 00	2 25
Brimstone	$20 00	$20 00	19 75
Cream tartar	24	32	36¼
Muriate of potash	1 80	1 75	1 70
Chlorate of potash	13¾	15	15¼
Kainit	9 75	8 75	7 50
Paints.			
White lead in oil	7	6	5 83
Litharge	6½	6	5¼
Paris green	20	18¾	17
Orange mineral	8	8	7¾
Ven. red, English	1 40	1 40	1 40
Ven. red, American	1 00	1 00	1 00
Barytes	$16 00	$16 00	$16 00
Whiting, Commercial	45	45	35
Drugs.			
Opium	$3 05	$2 08	$4 25
Morphine, domestic	2 40	2 40	2 05
Quinine, German	24	34	43
Quinine, domestic	34	43	52
Cinchonidia, domestic	4	5	8
Alcohol	1 98	2 18	2 08
Borax, city	9	8¾	6½
Beans, tonka (Ang)	1 35	1 35	1 35
Cubebs	1 22	1 45	85
Cuttlefish	18	22	14
Glycerine, American	21	17½	19½
Oil, castor, city cs.	14½	14	17
Oil, codliver, Nor.	21 50	22 00	28 00
Quicksilver	60	53	53½
Oil, bergamot	1 98	2 60	1 40
Oil, cassia	95	72½	70
Oil, cubebs	13 00	13 00	10 00
Oil, peppermint, tins	1 80	1 85	2 66
Oil, sassafras	38	46	35
Aloes, cape	5	5¾	5¾
Asafœtida	8	9½	9
Gum arabic, 1st picked	84½	84½	92½
Gum arabic, sorts	45	52	57½
Camphor bbls	32	26	23¾
Shellac, D C	24	18½	19
Senna, Alex. Nat'l	19	24	32½
Senega So	50	46	50
Golden Seal root	25	60	16
Ipecac	2 00	1 80	2 25
Canary seed, Smyrna	2¼	2⅝	3
Caraway seed, Dutch	4¾	7	8¼
Coriander, English	4¼	4	4¾
Mustardseed, Cal. yel	2⅝	3½	4¾
Mustards'd, Trieste, br.	5½	6	5
Rapeseed, English	4¼	3	3¾
Rapeseed, German	3¾	3¼	3½
Oils.			
Linseed, domestic	59	56	46
Cottonseed, prime S. Y	49	45	39
Olive, Sicily	66	68	71
Cocoanut, Ceylon	5⅝	5 2-	4¾
Lard, prime city	56	64	59
Menhaden, prime cde	30	28	40
Whale, bleached win'r	47	43	74
Sperm, bleached win'r	81	73	22
Paraffine, 25 gravity	10¼	10½	8½
Black, 29 gr. 15°	8½	8½	7½
Oil cake, western	23 00	24 50	23 50
Spirits turpentine	39½	37	35¼
Dyestuffs.			
Cochineal, Teneriff S.	30	30	30
Cutch	5¾	7	7⅜
Gambier	6¾	5¼	5
Indigo, Bengal h grade	1 25	1 25	1 25
Bichromate potash	11¾	10½	9½
Prussiate potash, yel	17½	19	18½
Sumac, Sicily prime	66 00	57 50	70 00
Starch, W's'n corn, bbls	2½	2⅜	2⅝

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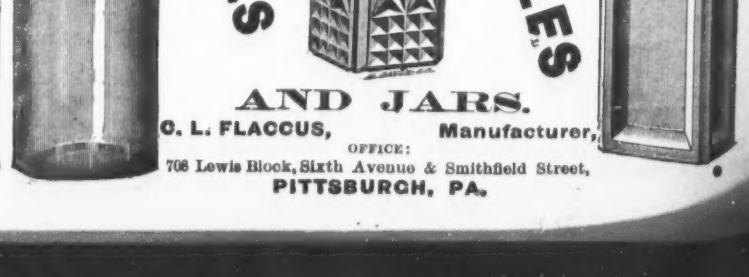

AND JARS.

C. L. FLACCUS, Manufacturer,

OFFICE:

708 Lewis Block, Sixth Avenue & Smithfield Street,

PITTSBURGH, PA.

Imports and Exports.

Below we give a summary statement of the imports and exports of the United States for the nine months ending March 31, 1890. We also give the same information for the corresponding period of 1889, in order that a comparison may be made between the two years. The table is corrected to April 28, 1890:

IMPORTS OF MERCHANDISE.

FREE.	1890.	1889.
Asphaltum or bitumen, crude.....lbs	109,808,871	58,667,258
Alizarine, natural or artificial.....lbs	1,708,419	2,076,134
Argol, or crude tartar, and argol dust.....lbs	17,115,058	15,852,671
Barks, cinchona or other used in the manufacture of quinine.....lbs	1,906,521	1,953,145
Cochineal.....lbs	181,186	252,578
Logwood in sticks..tons	53,436	48,345
All other dyewoods...val	$167,707	$188,691
Gum, arabic.....lbs	709,787	538,295
Gum camphor, crude..lbs	1,379,535	1,706,338
Catch and gambier....lbs	11,185,823	13,835,786
Shellac.....lbs	2,491,989	3,973,665
All other gums and gum resins.....lbs	30,031,437	26,645,859
Indigo.....lbs	1,470,285	2,497,193
Lime, chloride of, or bleaching powder...lbs	72,330,678	84,758,666
Licorice root..lbs	42,026,068	43,547,983
Mineral waters, all not artificial.....gls	1,014,616	1,049,459
Potash, muriate of....lbs	46,775,690	57,685,709
Quinia, sulphate of, salts of and cinchonidia...oz	2,176,306	1,979,872
Soda, nitrate of.....lbs	153,011,384	91,527,201
Sulphur or brimstone, crude.....tons	107,622	110,594
Vanilla beans.....lbs	80,973	109,695
All other drugs, chemicals and dyes.....val	$2,864,913	$2,816,481
Corkwood, or cork-bark, unmanufactured....val	$846,293	$581,428
Guano.....tons	6,913	8,751
Phosphates, crude or native, for fertilizing purposes.....tons	25,759	50,633
All other fertilizers...val	$640,862	$861,256
Oils, fixed or expre'd..lbs	18,331,662	12,916,337
Oils, volatile or essential.....lbs	1,056,507	1,506,011
Plaster of Paris, or sulphate of lime, unground.....tons	121,377	119,702
Plumbago.....cwt	253,407	113,479
Nutmegs.....lbs	783,520	953,793
Pepper.....lbs	8,694,093	7,196,282
All other spices.....lbs	7,649 449	7,565,211
DUTIABLE.		
Bristles.....lbs	959,791	1,024,512
Brushes.....val	$542,119	$491,136
Cement.....bbls	1,481,155	1,047,955
Coal-tar colors & dyes val	$1,275,827	$1,241,847
Glycerine.....lbs	9,586,550	7,489,184
Logwood and other dyewoods, extract and decoctions of.....lbs	1,976,563	1,693,137
Opium, crude.....lbs	312,421	302,610
Potash, nitrate of, or saltpeter, crude..lbs	7, 96,373	3,811,708
Soda, bicarbonate of..lbs	752,432	906,736
Soda, carbonate, including sal soda and soda ash.....lbs	227,351,689	234,979,935
Soda, caustic.....lbs	59,404,134	62,007,609
Soda,all other salts of..lbs	16,113,926	12,752,858
Sumac, ground.....lbs	12,442,784	9,431,444
All other chemicals and drugs.....val	$3,330,587	$3,010,851
Clay of all kinds, including china clay or kaolin...tons	36,152	36,852
Cosmetics, perfumery, &c.....val	$308,045	$247,931
Glass and Glassware:		
Bottles, vials, demijohns, carboys and jars, empty or filled.....val	$626,943	$633,766
Cylinder, crown and common window, unpolished.....lb	52,167,9.7	59,949,683
Cylinder and crown, polished—		
Unsilvered.....sq. ft	3,275,212	1,162,471
Silvered.....sq. ft		
Plate, fluted, rolled and rough.....sq. ft	1,431,442	2,285,581
Unsilvered.....sq. ft	2,057,073	2,341,469
Silvered.....sq. ft	402,496	3,068,757
All other glass and glassware.....val	$1,583,911	$1,805,047
Hops.....lb	5,780,394	3,724,755
Lead and manufactures of.....val	$477,544	$428,114
Oils:		
Whale and fish.....gls	200,590	420,178
Other animal.....gls	18,279	12,990
Mineral.....gls	332,951	212,346
Olive.....gls	564,582	645,695
Other vegetable.....gls	751,498	635,054
Volatile or essential...lbs	307,602	514,230
Paints and colors.....val	$955,262	$933,016
Seeds, linseed or flaxseed.....bush	1,566,023	1,832,310
Soap, fancy perfumed and all descriptions of toilet.....lbs	500,871	426,530
All other kinds soap..val	$195,807	$158,781
Spices, ground.....lbs	668,657	549,394
Sponges.....val	$301,643	$235,787
EXPORTS OF DOMESTIC MERCHANDISE.		
Barks and extract of, for tanning.....val	$188,689	$202,809
Bleaking.....val	$182,911	$127,68
Candles.....lbs	1,135,136	1,157,521
Acids.....val	$75,207	$61,612
Ashes, pot and pearl..lbs	371,118	380,000
Dyes and dyestuffs....val	$548,668	$617,647
Ginseng.....lbs	199,611	246,853
Medicines, patent or proprietary.....val	$1,257,505	$1,375,082
Roots, herbs and barks, n. o. s.....val	$154,824	$93,976
All other chemicals, dyes and medicines.....val	$1,766,265	$1,536,975
Perfumery and cosmetics.....val	$302,345	$324,593
Fertilizers.....tons	135,484	83,804
Window glass.....val	$6,010	$14,439
All other glass.....val	$631,261	$631,445
Glucose or grape sugar.....lbs	27,538,876	12,519,089
Glue.....lbs	547,958	400,132
Grease, grease scraps, and all soap stock.....val	$957,295	$615,451
Gunpowder.....lbs	776,243	665,529
All other explosives..val	$646,232	$520,808
Hops.....lbs	7,197,869	11,070,138
Lead and manufactures	$127,565	$155,476
Matches.....val	$42,729	$47,559
Rosin.....bbls	1,216,450	949,679
Tar.....bbls	23,880	17,576
Turpentine & pitch...bbls	15,770	9,381
Oil cake and oil-cake meal.....lbs	552,439,984	463,855,115
Oils.		
Lard.....gls	886,246	595,107
Sperm.....gls	135,010	83,814
Whale and fish.....gls	1,537,855	266,677
Other animal.....gls	539,817	308,79?
Mineral, crude (including all natural oils, without regard to gravity)...gls	69,303,311	57,143,165
Mineral, refined or manufactured naphthas (including all lighter products of distillation).gls	10,524,820	11,14?,?14
Illuminating.....gls	395,278,877	375,240,437
Lubricating and heavy paraffine oil.....gls	22,901,996	18,215,979
Residuum (including tar, and all others, from which the light bodies have been distilled) bbs	45,749	32,966
Cottonseed.....gls	10,333,598	1,941,180
Linseed.....gls	94,811	57,231
Volatile or essential..val	$173,860	$149,775
Other vegetable oils..val	$61,450	$37,675
Paraffine and paraffine wax.....lbs	35,957,812	23,981,910
Paints and painters' colors.....val	$401,727	$375,052
Tallow.....lbs	80,663,194	53,831,589
Oleomargarine oil.....lbs	45,288,556	16,069.972
Quicksilver.....lbs	276,381	497,380
Cottonseed.....lbs	6,886,415	9,609.495
Soap, toilet or fancy..val	$50,462	$41,730
Soap, all others.....lbs	19,549,010	13,311,126
Spermaceti and spermaceti wax.....lbs	367,117	355,951
Spices, ground or prepared.....val	$18,946	$25,276
Alcohol.....proof gls	251,457	118,712
Spirits turpentine.....gls	8,202,074	6,829,802
Starch.....lbs	7,412,365	4,602,246
Varnish.....gls	126,234	111.741
Wax, bees'.....lbs	163,702	90,481
Whalebone.....lbs	165,075	241,642
EXPORTS OF FOREIGN MERCHANDISE.		
FREE OF DUTY.		
Alizarine, natural or artificial.....lb	.....	.....
Argol, or crude tartar, and argol dust.....lb	.....	...
Barks — Cinchona, or other used in the manufacture of quinia....lb	.....	.....
Cochineal.....lb	.....	.....
Logwood.....tons	100	111
All other dyewoods in sticks.....val	.....	112
Gum Arabic.....lb	7,041	625
Gum camphor, crude...lb	.....	.....
Gum cutch and gambier.....lb	8,206	11,014
Gum shellac.....lb	33,633	32,803
All other gums and gum-resins.....lb	.....	.....
Indigo.....lb	24,833	16,178
Lime, chloride of, or bleaching powder....lb	1,864	1,293
Mineral waters, all not artificial.....gls	1,837	.....
Quinia, sulphate of, salts of, and cinchonidia..oz		.....
Soda, nitrate of.....lb	329,731	3,800
Sulphur, or brimstone, crude.....tons	3	.....
Vanilla beans.....lb	1,469	5,318
All other chemicals and drugs.....val	$157,927	$170,443
Guano.....tons	8	750
All other fertilizers...val	.....	$585
Oils, fixed or expressed.....lbs	1,851,234	279,740
Oils, volatile or essential.....lbs	6,828	5,521
Plumbago.....cwts	.....	.....
Nutmegs.....lbs	7,750	3,756
Pepper.....lbs	308,747	307,857
All other spices.....lbs	832,157	327,168
SUBJEC TO DUTY.		
Brushes.....val	$15	$166
Cement.....bbls	5,093	4,545
Coal tar colors and dyes.....val	$5,257	$22,598
Glycerine.....lbs	10,975	14,098
Logwood and other dyewoods, extracts and decoctions of.....lbs	400	237,197
Opium, crude.....lbs	57,577	30,019
Potash, nitrate of, or saltpeter, crude.....lbs	51,915	25,212
Soda, bicarbonate of..lbs	106,997	76,042
Soda, carbonate, including sal soda and soda ash.....lbs	101,997	76,042
Soda, caustic.....lbs	1,403,207	1,631,045
Soda, all other salts of.lbs	28,874	.....
Sumac, ground.....lbs	.....	.....
All other chemicals and drugs.....val	$35,283	$20,493
Perfumery, cosmetics, and all toilet preparations.....val	$3,300	$3,171
Glass and Glassware:		
Bottles, vials, demijohns, carboys, and jars, empty or filled.....val	$2,112	$671
Cylinder, crown, and common window glass, unpolished.....lbs	.....	150
Plate glass, fluted, rolled rough.....sq feet	13,104	54
All other.....val	$4,356	$4,356
Hops.....lbs	362,991	227,184
Lead, and manufactures of.....val	$422,761	$406,147
Oils:—		
Whale and fish.....gls	4,533	3,966
Mineral.....gls	.....	.....
Oil, olive.....gls	2,495	710
Oil, other vegetable...gls	31,326	37,745
Oil, volatile or essential.....lbs	631	126
Paints and colors.....val	$4,308	$1,712
Soap, fancy, perfumed.lbs	536	130
Soap, all other.....val	$2,386	$2,506
Spices, ground.....lbs	1,899	1,682
Sponges.....val	$33,925	32,054

GOODS ON THE WAY TO THE UNITED STATES BY SAIL.

Auckland

TO NEW YORK.

India, — cs Kauri gum
Mary S Ames, 4,768 cs Kauri gum
Australia, 3,638 cs, kauri gum
Essex, —— cs kauri gum

Calcutta

TO BOSTON

Charger, 1,492 bgs saltpeter, 1,000 bgs cutch 1,500 pkts turmeric, 1,000 pkts ginger
Benavon, 1,441 bgs saltpeter

TO NEW YORK.

Kelverdale, 30,001 bgs bone meal
Rajore, 3,206 bgs linseed, 200 cs shellac, 381 cs indigo
Victoria Regina, 500 bgs cutch, 2,130 bgs linseed, 150 cs shellac, 392 cs indigo, 657 bgs saltpeter
Vigilant, 3,437 bgs saltpeter, 4,972 bgs linseed, 100 cs indigo, 44 cs asafœtida
Falkland, 3,018 bgs saltpeter, 1,000 bgs cutch, 297 cs shellac, 79 cs button lac, 407 cs indigo
North American, 970 bgs saltpeter, 100 cs button lac, 2,099 pkts Myrabolams
Andrina, 1,640 bgs saltpeter, 499 bgs cutch, 300 button lac, 101 cs indigo
Glenfinlas, 490 bgs saltpeter, 300 cs shellac, 150 cs button lac, 24 cs indigo
Britannia, 2,455 bgs saltpeter, 1,500 bgs cutch, 300 cs shellac, 40 cs button lac
Mary L Cushing, 1,119 bgs saltpeter, 500 bgs cutch, 100 cs shellac, 100 cs button lac, 1,000 pkts turmeric, 1,000 pkts ginger

TO SAN FRANCISCO

Benmore, 341 bgs linseed

Cochin

TO NEW YORK

Walter D Wallett, 1,999 cwt cocoanut oil, 25 doz lemongrass oil, 5,149 cwt nux vomica
Meridien, 1,677 cwt cocoanut oil, 105 doz lemongrass oil, 2,364 cwt nux vomica

Colombo

TO NEW YORK

Walter D Wallet, 15,633 cwt plumbago, 14,656 ozs citronella oil
Meridien, 8,856 cwt plumbago
James G Stone, 4,001 cwt oil cocoanut, 10,336 cwt plumbago, 447,792 ozs oil citronella

Cirgenti

TO SAVANNAH

Imp. f. Guiseppe, 1,850 tns brimstone thirds

Hiogo

TO NEW YORK

James Nesmith, 1,250 pcls camphor
Adolf Obrig, 725 pcls camphor

Hong Kong

TO NEW YORK

Great Admiral, 1,650 pcls cassia, 100 cs star aniseed, 110 cs essential oil, 200 cs gallnuts

Macassar

TO NEW YORK

J C Warns, 50 pcls nutmegs
Johanna Kremer, 131 pcls gum copal

Singapore

TO NEW YORK

Raphael, 6,900 pcls black pepper, 352 pcls white pepper, 4,206 pcls sago flour, 847 pcls flake tapioca, 254 pcls tapioca flour, 836 pcls cube gambier, 4,183 pcls gum copal
Geo S Homer, 2,422 pcls gambier, 592 pcls pear tapioca, 2,009 pcls flake tapioca, 252 pcls tapioca flour, 8,240 pcls Black pepper, 244 pcl white pepper, 841 pcls sago flour, 3,266 pcls gum copal, 84 pcls gum damar

TO BOSTON

Antioch, 4,201 pcls gambier, 1,711 pcls sago flour, 336 pcls cube gambier, 505 pcls pepper tapioca 420 pcls black pepper, 252 pcls flake tapioca, 129 pcls gum copal
Iceberg, 5 042 pcls gambier, 840 pcls sago flour, 421 pcls tapioca flour, 336 pcls cube gambier, 106 pcls pearl sago, 672 pcls pearl tapioca, 169 pcls flake tapioca, 840 pcls black pepper, 100 pcls white pepper, 253 pcls gum copal

West Coast South America

TO BALTIMORE

Oscar, 6,000 bgs nitrate of soda
Baldur, 8,000 bgs nitrate of soda
Rose Inness, 9,000 bgs nitrate of soda

TO BOSTON

Independence, 10,000 bgs nitrate of soda

TO CHARLESTON

Stormy Petrel, 6,000 bgs nitrate of soda
Irene, 5,000 bgs nitrate of soda

TO HAMPTON ROADS

Edward May, 10,000 bgs nitrate of soda
St Kilda, 12,000 bgs nitrate of soda
Empire, 12,000 bgs nitrate of soda
Itonus, 9,000 bgs nitrate of soda
Ada Browne, 11,000 bgs nitrate of soda
Linnwood, 14,000 bgs nitrate of soda
Sultana, 8,000 bgs nitrate of soda
Stella, 5,000 bgs nitrate of soda
Antoinette, 10,000 bgs nitrate of soda
Sea King, 15,000 bgs nitrate of soda
Stadacona, 12,000 bgs nitrate of soda
Elwell, 16,000 bgs nitrate of soda
Grandee, 10,000 bgs nitrate of soda
Selkirk, 20,000 bgs nitrate of soda
Gloaming, 16,000 bgs nitrate of soda
Antonio Sanchez, 5,000 bgs nitrate of soda
Marquis of Lorne, 13,000 bgs nitrate of soda
Annie Reed, 7,000 bgs nitrate of soda
Xenia, 13,000 bgs nitrate of soda
Benj Sewell, 15,000 bags nitrate of soda
Werner, 10,000 bgs nitrate of soda

TO NEW YORK

Auriga, 16,000 bgs nitrate of soda
Onaway, 10,000 bgs nitrate of soda
La Escoseca, 10,000 bgs nitrate of soda
Criccieth Castle, 21,000 bgs nitrate of soda
Edward Kidder, 10,000 bgs nitrate of soda
Mikado, 7,000 bgs nitrate of soda
Amanda, 16,000 bgs nitrate of soda
Hiram Emery, 8,000 bgs nitrate of soda

TO PHILADELPHIA

Magellan, 5,000 bgs nitrate of soda

RECORD OF VESSELS.

PORT & NAME.	SAILED.	LAST REPORTED
Auckland.		
India	Jan 25...	
Mary S Ames.	Feb 14...	
Australia	Feb 24...	
Essex	April 19.	
Cacutta.		
Benmore	Jan 20...	
Kelverdale	Feb 4 ...	
Rajore	Feb 5....	
Vict'a Regina	Feb 8....	
Vigilant	Feb 21...	
Falkland	Mch 10..	
North Am	Mch 21..	
Andrina	March 20	
Glenfinlas	March 26	
Britannia	April 7	
M L Cushing	April 9.	
Charger	April 10	
Benavon	April 11.	
Cochin.		
W D Wallett	March 13	
Meridien	March 21	
Girgenti.		
Imp f G'ppe	Feb —...	
Colombo.		
W D Wallet	Feb 22...	via Cochin
Meridien	March 1.	via Cochin
J G Stone	March 2.	
Hiogo.		
J Nesmith	Jan 26...	
Adolf Obrig	Feb 2....	
Hong Kong.		
Gt Admiral	Mar 15..	New Anger, Mch 30
Macassar.		
J C Warns	Feb 16...	
J Kremer	March 1.	
Singapore.		
Antioch	Feb 4 ..	
Raphael	Feb 21..	
Geo S Homer.	Mar 21..	
Iceberg	Apr 2...	
W. C. South America.		
Edward May	Jan 18...	
Auriga	Feb 16...	
Onaway	March 17	
Baldur	Feb 28..	
Rose Inness	March 12	
La Escosca	March 12	
Stormy Petrel	Feb 25...	
Magellan	March 26	
Independence	March 9.	
St Kilda	March 20	
Empire	Feb 22...	
Mikado	Feb 21..	
Itonus	March 25	
Hiram Emery	April 9..	
Oscar	March —	
Ada Browne	March 26	
C Castle	Apr 8....	
Linnwood		Apr sailing
Sultana		Apr sailing
Edw Kidder	Apr 20...	
Irene		Apr sailing
Stella		Apr sailing
Amanda	March 22	
Antoinette		Apr sailing
Sea King		May sailing
Stadacona		May sailing
Elwell		May sailing
Grandee		May sailing
Selkirk		May sailing
Gloaming		May sailing
Anto Sanchez		May sailing
M of Lorne		May sailing
Annie Reed		May sailing
Xenia		May sailing
Benj Sewell		May sailing
Werner		May sailing

Herf & Frerichs Chemical Co

Manufacturing Chemists,

St. Louis, Mo.

MANUFACTURERS OF

SUBNITRATE BISMUTH.
SULPHURIC ETHERS.
CONC. NITROUS ETHER.
IODIDE POTASSIUM.
SULPHATE ZINC.

AND A GENERAL ASSORTMENT OF

Pharmaceutical, Photographic & Technical Chemicals.

Eastern Agents, SCHOELLKOPF, HARTFORD & MACLAGAN, Limited.
3 Cedar St. NEW YORK. 103 Milk St., BOSTON.

BORAX and BORACIC ACID.

ALL GRADES.

CALIFORNIA MEDICINAL HERBS AND BARKS as follows:
Cascara Sagrada, Yerba Santa, Grindelia Robusta Damiana.
THE CHEMICAL IMPORTING & MFG. CO., 23 Cedar St., New York

Jarrow Chemical Company,

Newcastle-on-Tyne.

Bleaching Powder, Carb Soda Crystals,
Caustic Soda, Soda Ash, all tests,
Sal Soda, Bi-Carb Soda.

Edward Hill's Son & Co., Agents,
25 & 27 CEDAR STREET, NEW YORK.

WING & EVANS,

Commission Merchants,
54 WILLIAM STREET, NEW YORK.

Soda Ash, Sal Soda, Caustic Soda, Bleaching Powders.

AGENTS FOR

BRUNNER, MOND & CO.
SOLVAY PROCESS CO.
C. ALLHUSEN & SON.

JAMES LEE & CO.,

COMMISSION MERCHANTS,
72 PINE STREET, NEW YORK.

IMPORTERS OF

Soda Ash, Caustic Soda, Sal Soda, Bleaching Powder,
Salt Cake, Oxide Manganese, Chloride Manganese,
Potash, Alum, Sulphate Morphia,
Carbonate Potash, Hyposulphite of Soda.

SOLE AGENTS IN THE UNITED STATES FOR

Charles Tennant & Co.

Edward Hill's Son & Co.,

25 and 27 Cedar St., New York.

Caustic Soda,
Bleaching Powder,
Soda Ash
Carbonated Crystals,
Sal Soda
Bicarb Soda,

Caustic Potash,
Carbonate Potash,
Chlorate Potash,

ARSENIC.

Cocoanut Oil Ceylon.
Cocoanut Oil, Cochin.
Palm Oil,
Citronella Fisher's Brand
Cookson's Ven. Red
Orange Mineral,

Blundell, Spence & Co.'s Paints and Colors.

Fratelli De Pasquale & Co.'s

ESSENTIAL OILS,

LEMON, BERGAMOT AND ORANGE. GUARANTEED PURE.

PURE ALKALI.

Manufactured by the Ammonia Process.

This Alkali contains 58 per cent. of Alkali or nearly 99 per cent. of Carbonate of Soda. It is the most economical form of Soda for Manufacturers of Soap, Glass, Paper, Wood Pulp and Colors, and for Printers and Bleachers.

CRESCENT BRAND

TRADE B.M&C.o MARK.

MANUFACTURED BY

BRUNNER, MOND & CO.,

LIMITED,

NORTHWICH, ENGLAND.

AND

SOLVAY PROCESS CO.,

SYRACUSE, NEW YORK.

CRESCENT BRAND

TRADE B.M&C.o MARK.

TRADE MARK

THE SOLVAY PROCESS CO. will make by this same process an Alkali adapted for Window Glass Makers testing 48 per cent.

WING & EVANS, 54 WILLIAM STREET, NEW YORK

Sole Agents for the United States.

WING & EVANS have appointed as exclusive Sale agents,
Messrs. LINDER & MEYER, BOSTON, for New England States, who are prepared to contract for future delivery.

CHEMICAL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 46.

TUESDAY EVENING May 20, 1890.

In the general chemical market trade has been fairly satisfactory the past week, though most of the goods receiving attention move off chiefly in jobbing quantities. We have few special features to record, prices in the majority of cases resting on a steady basis, while such changes as have occurred have for the most part been of an unimportant character. Buyers of heavy chemicals are still waiting for lower prices, and the resulting dulness of trade imparts an easy tone to the market and has caused a further depreciation of values in several instances. Advices from the other side are not of an encouraging character for holders here. Some reports state that the market over there is in a very unsettled condition, and that prices keep on fluctuating. It is also reported that the effort to form a combination of the Lancashire makers for the purpose of maintaining the price of caustic soda at a fixed minimum has fallen through owing to a want of reciprocal confidence among the manufacturers. Our regular correspondents, Messrs. J. P. Brunner & Co. write from Liverpool on the 7th: "There is little passing in heavy chemicals and the market is in a lifeless state all round. Soda ash is about unchanged at 1¼@1½d for 48%; caustic at 1 5-16@1½d for 48%; carb. high test ash still continues very scarce. Soda crystals are dull at £3@£3 5s per ton. Caustic soda was more firmly held at the close of last week, but in the absence of business the tone is weaker again; makers ask £9 for 70% while some resale parcels have been done to-day as low as £8 12s6d. Other test are quoted as follows: 60%, £7 17s 7d@£8 2s 6d; 74%, £9 7s 6d@£9 10s, and 76%, £10 10s. Bleaching powder is flat for hardwood, which is nominally quoted at £5 10s, but this figure could be shaded in one quarter. There is a good home demand for soft wood packages, but little doing for export. Chlorate of potash is receiving little attention and 4½@4¾d per lb are the prices asked. Bicarb soda is quiet at £5 15s per ton and upwards for one cwt. kegs, according to brand and quantity with usual allowances for larger packages."

Heavy Chemicals.

Carbonated soda ash is dull and the market has a downward tendency. For 48% the nominal quotations are 1.25@1.40c as to quantity, brand and seller, but to move some lots from dock a shade less than the inside price was accepted. High test is quoted at 1.37½@1.50c, the inside quotation being for stock from dock. No sales of consequence have been reported since the date of our last.

New process alkali is in about the same position as Le Blanc soda ash. Buyers are not in immediate need of supplies, and withhold orders for future delivery in the expectation that prices will go lower. Dealers quote 1.25@1.40c for 48% and 1.37@1.50c for 58% but in the absence of important business these are merely nominal prices.

Salt cake finds a moderate outlet, sales, however, seldom exceeding car-load lots. There has been no quotable change in prices during the week, the range given being 62½@65c for best brands of domestic manufacture, and 70@72½c for English, according to quantity and quality.

Caustic soda is almost entirely neglected, and in view of the uncertainty regarding the future now prevailing in the primary market, the feeling here is weak and depressed. Lower prices are named without apparently awaking the interest of buyers, who evidently believe that the bottom of the market has not yet been reached, and consequently are in no hurry to place their orders. For 70% and 74%, 2 45@2 50 cts now quoted, and it is possible that a firm offer of a shade less than the inside price would not be declined.

Sal soda of English make is now quoted at 87½@95c, as to brand, quantity and position, but even these comparatively low figures do not prove attractive to buyers, and the market closes dull. American makers maintain their quotations and report a fair demand.

Bleaching powder continues to improve since the removal of the stock that was recently pressed on the market. No one now seems particularly anxious to sell, and for good Liverpool brands it is doubtful if less than 1 40@1 45c would now be accepted. Newcastle makes are not offered below 1 35c, and from that up to 1 40c is quoted, according to quantity and position.

Acids.

Acetic acid. Dealers report a fair demand, which has been supplied without comment at previous prices, the same having ruled fairly steady. No interesting items can be recorded.

Muriatic and nitric acids have been moderately active during the interval, but nothing of an interesting nature has occurred to further disturb values or affect the market in any particular.

Oxalic acid—Some dealers continue to term the market as rather easier, while others as persistently report a continued strained feeling, with supplies difficult to obtain, except at high prices. Spot quotations are still ruling at 8c, with the demand fair.

Sulphuric Acid—The demand continues of very fair proportions and were it not for the course of prices, the month's business, so far, would be regarded as highly satisfactory. The members of the Knickerbocker Company continue to emphatically deny the existence of any dissension in their ranks, and the better plan seems to be to drop the matter until something tangible transpires to show who are in error as regards the assertions that have been made on both sides. No further features of interest can be noted, and some of the dealers claim to be selling acids at the schedule rates.

Tartaric acid has been quiet throughout the week, very little trading having been indulged in. Prices are identical with a week ago, and the feeling seems to be somewhat better than in previous weeks.

Miscellaneous.

Acetate of Lime—No special demand has existed for this article, trading having been fair and on the jobbing order entirely. No change in price has been effected.

Blue vitriol has been selling in a moderate jobbing way, and no change in the previously quoted prices can be reported. There are no features to note.

Brimstone. Advices continue to come stronger, and prices for best unmixed seconds to arrive are now quoted at $21, while thirds can be had at $20 50. There has been little business doing, however, as buyers continue to pursue a waiting policy and seem content to watch events, with the evident hope that a break will occur. There has been a moderate movement in Japan on spot, the price in the transactions being $21.

Nitrate of Soda—Sales of some 10,0 0 bags from store are given us at 1 70@1 72½c, but the market closed at 1 75@1 80c, and it is thought that the 1 70c lots have about all been cleared up. The consumption has been very large during the past month, the deliveries having reached some 17,000 bags since May 1. The stock is now estimated at 46,000 bags in store and about one-half of this, it is said, belongs to consumers and is not for sale. The fact that there is a considerable quantity on the way and in course of shipment, however, keeps the market down, although a better feeling was evident at the close to-day.

Cream of Tartar—The trading has been confined to the supplying of small and immediate wants, as large buyers continue to show a lack of interest in the article, being well supplied at the moment. Prices have been stationary and no new or interesting items can be noted.

Ammonias, Potashes and Fertilizing Chemicals.

There has been little of fresh interest in the general market for fertilizing chemicals, and trading continues to lack animation, beyond the fact that inquiries have been made for contract price for ammonias. Canadian phosphates have been quiet, in view of it being between seasons, and prices have not been altered in any instance.

Muriate of potash—The demand has been fair in a jobbing way, with the market absolutely bare of items of interest and prices unchanged.

Double manure salts have sold in the usual way at our previous quotations, as has also high grade sulphate of potash. Both articles are without feature.

Kainit has not altered in position since our last writing. Values have been unaltered and no excessive trading has been indulged in.

G. H. NICHOLS & CO.,
Manufacturing Chemists.
68 WILLIAM ST., NEW YORK.
Oil Vitriol, Sulphuric Acid, 98 pr ct.
Muriatic Acid, Bi-Sulphate of Soda,
Blue Vitriol, Sulphate of Soda,
Alum, etc., etc., etc.
Special Quotations given on Application.

JAS. L. MORGAN & CO.,
MANUFACTURING CHEMISTS,
47 FULTON ST., NEW YORK.
Oil Vitriol, Muriatic Acid,
Nitric Acid, Sulphate Soda,
Aqua Fortis, Extract Indigo,
Mixed Acid for Chemicals,
Nitro-Glycerine, etc.,etc.,etc.

HUDSON RIVER CHEMICAL WORKS,
Shady Side, N. J.

JOS. C. GAMBLE & SON,
ST. HELENS, Lancashire.
MANUFACTURERS OF
CHLORATE OF POTASH,
CHLORATE OF BARYTA
CHLORATE OF SODA,
SULPHIDE OF SODIUM,
SODA ASH, CREAM CAUSTIC SODA,
BLEACHING POWDER.
CROWN FILLER.

PHENIX CHEMICAL WORKS,
Oil Vitriol, Muriatic Acid,
ACETIC ACID,
Copperas, Sulphate Soda,
Nitric Acid, Aqua Fortis,
Muriate Tin, &c., &c.

GRIDLEY & CO., Agents,
98 MAIDEN LANE, NEW YORK.

FAIRFIELD CHEMICAL WORKS
71 WALL ST., NEW YORK.
ACIDS
Mixed Acids for Nitro-Glycerine a Specialty.
WORKS AT BRIDGEPORT & NEW HAVEN, CONN.

Atlantic Sulphur Works,
MANUFACTURERS OF
VIRGIN ROCK AND ROLL BRIMSTONE.
And Flour of Sulphur.
119 MAIDEN LANE, NEW YORK.

C. P. COUPER,
BROKER IN
CHEMICALS, OILS, &c.
39 N. Front Street, Philadelphia.

Martin Kalbfleisch's Sons Co.,
55 FULTON ST., cor. of CLIFF ST., New York.
MANUFACTURERS OF
Oil of Vitriol, Nitric, Muriatic and Acetic Acids, Aqua Fortis, Aqua Ammonia, Muriate of Tin, Sulphate of Zinc, Alum Tin Crystals, Blue Vitriol, Glauber's Salt, &c
Mixed Acids for Nitro-Glycerine Makers.

BAUXITE
(Hydrate of Alumina-Alum Clay.)
LUMP AND GROUND.
IRISH HILL BRAND. Highest in Alumina, and Lowest in Iron produced. Best article wherefrom to Manufacture Alum, Sulphate of Alumina, Alum Cake, &c.
Mines and Mills Near Belfast and Larne.
THE BAUXITE CO., Limited.
SOLE AGENT, PROPRIETORS.
GEO. G. BLACKWELL, 25, 26 & 27 Irwell Chambers West Liverpool, England.
Specialties in Manganese, Barytes, Talc, Oxides, Rottenstone, Irish Moss, Emerystone, etc

GASKELL, DEACON & CO.,

Alkali Manufacturers, WIDNES.

In addition to their well known Chemicals, offer their more recent specialty and already highly popular form of Soda

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They also pack it **GROUND** in barrels 4 cwt. each; Kegs, 112 and 56 pounds; Tins, 28 and 14 pounds.

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BLEACHING POWDER, high strength, and SAL SODA.

WING & EVANS, NEW YORK.

54 WILLIAM STREET. AGENTS FOR UNITED STATES.

Philadelphia Chemical Market.

PHILADELPHIA, May 19, 1890.

There has been but a moderate demand for English chemicals the last few days; large orders are scarce as buyers are only taking enough to supply their actual wants. As a rule prices are steady at the quotations last given, any exceptions being in buyers' favor. The arrivals have been quite enough to fill all requirements.

Carbonated soda ash Liverpool 48% is not in very large demand as most consumers are being regularly supplied on contracts; a few sales of round lots are reported but the bulk of the trade has been confined to jobbing orders. There is not a large stock on hand and as a result holders are not inclined to lower their views to any great extent; store lots are quoted at 1 55@1 65c and it is possible that on offer a fraction less might be accepted. To arrive and for shipments 1 50@1 60 will buy. Liverpool 58% is quoted at 1 57½@1 60c both for prompt and future deliveries; there is however, but a limited supply to draw from. Newcastle 48% is weaker on spot owing to a recent arrival being unsold and owners desiring to close out from dock rather than store and run the risk of carrying over during the summer months, are offering at lower figures but so far as can be learned with no takers. As soon as this lot has been disposed of a reaction is looked for, and figures quoted during the past week prevail; store goods are held at 1 50@1 55c, and possibly 1 47½c would buy on offer.

Caustic soda ash, 48%, has been more active, and the recent arrivals have all been placed from dock. Spot goods, in a jobbing way, can be bought at 1 72½@1 80c, and to arrive and for shipments 1 55@1 62½c is asked, with holders firm in their views.

Caustic soda, 60%, is held on spot at 2 85@3c, but for rounc lots 2 77½@2 82½c would probably be accepted as to brand. Seventy per cent, in a jobbing way, can be had at 2 77½@2 85c, with a fair trade reported. Shipments are held at 2 67½@2 75c, although less might buy on firm offer. Seventy-four per cent, to arrive, is quoted at 2 62½@2 67½c, and shipments are held at the same figures.

Refined alkali, 3½, is dull, and no change in figures to report. B. M. Co., 48½c, is in fair demand, and shipments coming freely to hand, but as yet nothing pressing on the market. Spot goods are quoted at 1 55@1 65c, and to arrive and for shipments 1 50@1 60c is named. B. M. Co., 58½c, has been moving along quietly, and from store can be bought at 1 60@1 70c; the same figures are quoted for lots on the way. Shipments are held at 1 50@1 65c as to quantity.

Bleaching powders are dull, and on spot are held at 1 55@1 65c, but lower figures would no doubt be accepted on offer. To arrive, 1 50@1 60c is asked, and holders are not very firm at these figures.

Sal soda can be bought on spot at 1 05@1 15c. Shipments are quoted at 1@1 10c.

Nitrate of soda is held from store at 2@2 20c; shipments at 1 77½@1 90c, and to arrive at 1 82½@1 95c.

Phosphate Rock Shipments.

Following are the shipments of phosphate rock, from Charleston, S. C., for April, 1888, 1889 and 1890, as furnished by Mr. P. C. Trenholm, of that city:

Domestic.	1888.	1889.	1890.
Baltimore	7,428	3,312	5,713
Philadelphia	3,671	1,570	825
New York	1,795	910	1,485
Weymouth, Mass	1,827	1,160	2,440
Wilmington, Del	....	1,325	....
Newtown Creek, N. J	652	...	610
Wilmington, N. C	539	1,803	480
Barren Island, N. Y	1,150	....	....
Elizabethport, N. J	1,050	....	700
Seaford, Del	....	600	600
Orient, L. I	....	850	....
Mantua Creek, N. J	6.2	....	640
Savannah, Ga	..	....	75
So. Ca. RR	1,874	1,086	591
C & S RR	2,164	4,121	4,471
N.E. RR	176	....	704
Total	22,998	16,800	19,134
Foreign.			
Genoa	80	....	...
United Kingdom	50	....	2,100
Gottenburg	....	....	730
Sweden	....	....	1,600
Channel for orders	....	....	1,050
Birkmhead	....	....	825
Total	130	....	6,305

New Alkaloid from Scopolia Atropoides.

It will be remembered that quite recently mention was made by Dr. Schmidt of samples of crystalline hyoscine and hyoscine hydrobromide that had been placed at his disposal by Herr Bender, who had obtained them in working up a large quantity of scopolia atropoides roots. Upon a closer examination, however, of the free base, which was in transparent crystals, the size of peas, melting at 59 deg. C., slightly soluble in water and freely soluble in alcohol, ether, chloroform and dilute acids, Dr. Schmidt found it to differ from the hyoscine of Ladenburg (*Apot.-Zeit.*). Analytical results appeared to correspond best with the from the formula $C_{17}H_{21}NO_4$, that attributed to hyoscine being $C_{17}H_{23}NO_3$. The crystalline hydrobromide also presented characters different from those attributed to hyoscine hydrobromide by Ladenburg, and appeared, in fact, to be a salt of the new base. The gold salt was very characteristic, forming shining needles, 2 centimeters long, moderately broad, presenting at the margins a peculiar comb-like or serrate appearance, and generally showing a distinct striation. The anhydrous crystals were difficultly soluble in water and melted at 214 deg. The occurrence of this base has since been found to be not limited to the root of scopolia atropoides, since it has been isolated in small quantities also from atropa belladonna, dubosia myoporoides and datura stramonium. Dr. Schmidt thinks that its presence in atropa belladonna probably explains Ladenburg's discovery of oxytropine among the products of the action of baryta water upon belladonna.

COMMERCIAL HYOSCINE HYDROBROMIDE.

In consequence of the results recorded in the preceding paragraph, Dr. Schmidt obtained for examination 10 grams of "hyoscinum-hydrobromicum" from an alkaloid factory of repute. It was supplied in presentable crystalline fragments, attaining a centimeter in length, but presenting no definite crystalline form. Analysis of these crystals did not give the figures required for hyoscine hydrobromide, whilst the purified gold salt prepared from them could not be distinguished in respect of appearance or solubility from the gold salt of the new base from scopolia, and on analysis it gave closely corresponding figures. The crystals melted at 210–212 deg., or slightly below the melting point of the gold salt of the new base (214 deg.) The liberated base, when decomposed by baryta water, yielded atropic acid and a base forming a gold salt having a melting point higher than that of isotropine. The mother liquor of the gold salt of the new base, when subsequently treated, yielded first shiny scaly crystals, melting at 204 deg. and approximating more closely in composition to hyoscine aurochloride, and afterwards a small quantity of yellow needles, corresponding in melting point and gold percentage to those attributed by Ladenburg to hyoscine aurochloride (and also observed in a double salt previously obtained by Dr. Schmidt from scopolia japonica and S. atropoides. As the characters observed in this sample of "hyoscinum hydrobromicum" varied much from those of a sample obtained from another source some time since, it would seem that under the name of "hyoscine salts" widely differing preparations occur in commerce, and Dr. Schmidt thinks that to this fact may be due the existing diversity of opinion as to the action of hyoscine.—*Phar. Jour. and Trans.*

Natrona Bi-Carbonate of Soda.
(ABSOLUTELY PURE.)

The nature of the raw material from which NATRONA BI-CARBONATE OF SODA is made—viz.: Kryolith, a mineral containing pure sodium—insures a purity and uniformity of product which cannot be obtained from any other known material. In making Bi-Carb. Soda from any other raw material, the use of sulphuric acid is a necessity, but none is used in any part of the process of making NATRONA BI-CARB; hence its entire freedom from the slightest trace of arsenic, which is always present in ordinary soda. Its absolute purity and entire freedom from all traces of sulphate of soda, common salt, and other impurities, render NATRONA BI-CARB NEARLY TASTELESS, and, being bolted through the finest bolting-cloth, insures the finest state of division.

To these indisputable facts the attention of CONSUMERS of soda is specially called. They are IMPORTANT, and should influence both those who use and those who sell soda, to buy and sell NONE BUT THE BEST.

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Caffeine Tri-Iodide.

Referring to the publications concerning caffeine tri-iodide by the *Chemist and Druggist*, and to the uncertainty that seems to exist regarding the constitution of the body prescribed under this name, Mr. P. W. Squire contributes the following interesting notes to the above named journal:

For the confusion of formulæ which has arisen in connection with the subject, the original paper by Professor Tilden (*Jour. Chem. Soc.* 1865, page 99) is primarily responsible. After reading that "the results of experiments undoubtedly point to the formula $2(C_8H_{10}N_4O_2I_2)3H_2O$." one does not naturally expect to find the author, after further experiment altering the formula on the succeeding page to $2(C_8H_{10}N_4O_2HI.I_2)3H_2O$, a change which gives a totally different idea of its constitution and method of preparation. Misled by the want of visible connection between the two statements, the *Chemist and Druggist* commentator of May 3 gave Tilden's corrected formula as belonging to a closely-related but different compound to that denoted by the provisional and incorrect formu a given on the previous page; anq the printing of the latter in the paragraph of February 15 (copied into the *Pharmaceutische Zeitnug*) has given an opportunity to Dr. Scholvien to add to the confusion by proving at considerable length that no body with such a formula could possibly exist.

When I was first asked by Dr. Mortimer Granville to prepare a quantity of this salt, Tilden's second formula was overlooked altogether, and his original directions were implicitly followed; but it soon became evident that the rapidity with which the crystals formed was directly proportional to the liberation of iodine from the excess of hydriodic acid present, an old and decomposed acid being far better for the purpose than a freshly-prepared and colorless acid.

The next experiment was to use an acid containing a quantity of added iodine, when a drop of crystals was quickly obtained, more than double the weight of the added iodine, the resulting inference being that two-thirds of the total iodine was practically in the "free" state, and the compound, instead of being a tri-iodide, was really (as indicated by Tilden) the normal hydriodide (hydriodate) of caffeine, with two loosely-combined atoms of iodine, whence its usefulness in therapeutics. Analytical results obtained by my assistant, Mr. Robert Thomson, completely confirm this view, and corroborate those obtained by Professor Tilden, except in regard to the water of crystallization, which we think in no case exceeds $1H_2O$ in the molecular compound.

The following are the percentage resul s obtained from some well-formed crystals:

	Experiment	$C_8H_{10}N_4O_2.HI\ I_2\ H_2O$
Caffeine..... (anhydrous)	32·4	32·66
Hydriotic acid.	21·50	21·55
Iodine.	42·67	42.76
Water.....	3·1	3·03
	99·75	100·00
Total Iodine...	64·09	64·14

The constitution of the body may be shown by either of the three following methods: 1. By treatment with cold water iodine is liberated to the extent of 42 per cent (two thirds of the whole), and may be titrated by hyposulphite. 2. By treatment with caustic soda, five-sixths of the free iodine is converted into iodide, and one-sixth into iodate of sodium; so that of the total iodine, eight-ninths (57·28 per cent) is precipitated by silver nitrate from a solution containing excess of ammonia (in which silver iodate is soluble), and the remaining ninth (7·13 per cent) on the addition of sulphurous acid, the theoretical percentages being 57·42 and 7·12 respectively. 3. By treatment with water and carbon bisulphide, or by boiling with water alone, the loosely combined iodine may be removed, and on evaporation the colorless liquid yields crystals of the ordinary hydriodide.

A complete synthesis of the salt has been effected by dissolving the theoretical quantities of caffeine and free iodine in hot hydriodic acid, previously saturated in the cold with the "tri-iodide," when the theoretical quantity of this di-iodo-hydriodide crystallised out in cooling.

As the still more highly iodized compounds of caffeine present many features of interest, both chemically and therapeutically, experiments on their preparation and properties are still proceeding.

Perseite, a Heptacid Alcohol.

M. Maquenne has recently made known the results of his investigation of the subject of the composition of perseite, a substance found in the leaves, berries, etc., of the Laurus Persea. Discovered in 1831 by Avequin, who supposed it identical with mannite, as did also Meisens, who made the first analysis of the substance, perseite was regarded by Muntz and Mercano as isomeric with mannite, having, however, a higher melting point, possessing no rotary power, and differing markedly also from that alcohol in crystalline form. From dulcite, which melts at the same temperature, it is to be distinguished by its lesser crystallizing power, and by the fact that, like mannite, its aqueous solution becomes dextrorotatory on addition of borax. Perseite is very soluble in hot water; on cooling, the solution deposits the greater part of the substance in crystalline condition. It is almost insoluble in alcohol.

M. Maquenne now finds that perseite is not isomeric with mannite, but is a heptacid alcohol derived from heptane. A mere determination of the percentage of carbon and hydrogen in perseite would not be likely to lead to any satisfactory conclusion with regard to the composition of the substance, since the percentages of carbon in compounds represented by the formulæ $C_6H_8(OH)_6$ and $C_7H_9(OH)_7$ differ by only six-hundredth ; of oxygen by but eight-hundredths of one per cent. Even in the proportions of hydrogen the difference amounts to only fifteen-hundredths of one per cent. A careful study, therefore, of several derivatives was necessary in order to establish the composition of this alcohol. It should be mentioned in passing that a determination of the molecular weight by Raoit's method did not yield satisfactory results.

In the presence of zinc chloride, acetic acid and perseite react upon each other, giving rise to the formation of a heptacetate, $C_7H_9(O.CO.CH_3)_7$. The analysis of this compound gave figures agreeing almost exactly with those required for a substance of the formula given above, and, further, by saponification by means of baryta and determination of the barium acetate formed, the proportion of acetic acid in the heptacetate was shown to be that expressed by the formula. A heptabutyrate, $C_7H_9(O.CO.C_3H_7)_7$, was also made and analyzed by the same methods. Fuming nitric acid forms with perseite a heptanitrate, $C_7H_9(NO_3)_7$, which resembles nitromannite and nitroinosite, but is more stable. A compound with benzoic aldehyde was prepared and shown to have the composition expressed by the formula $C_7H_{12}O_7(CH.C_6H_5)_2$, where four hydrogen atoms belonging to the alcoholic hydroxyl groups are replaced by the two bivalent groups $(CH.C_6H_5)$.

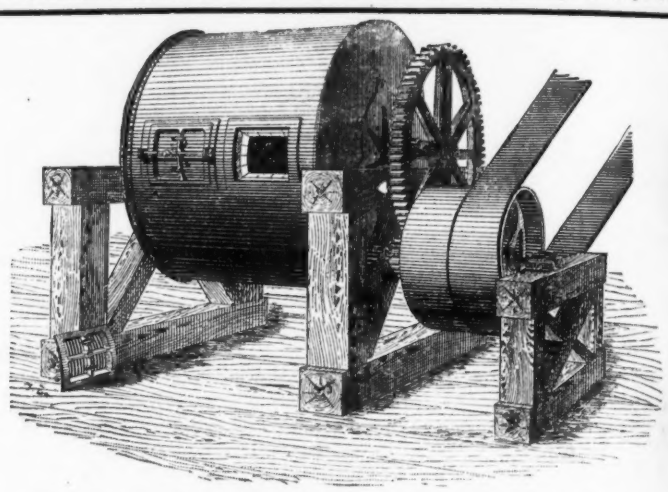
By heating with hydriodic acid, perseite is converted chiefly into two produc's—a hydrocarbon of the formula C_7H_{12}, and an iodide of heptane, $C_7H_{15}I$. The hydrocarbon was carefully examined and was found to possess none of the characteristic properties of the hydrocarbons of the acetylene series or of the di-ethylene series. It does not combine with the halogens or with the halogen acids to form corresponding derivatives of heptane; the molecule is bivalent, a d the products of the action of these reagents are substances whose composition is repr. sented by the formulæ

$C_7H_{12}Cl$, $C_7H_{12}I$, $C_7H_{12}ClBr$, $C_7H_{12}Br_2$.

The derivativ s and the hydrocarbon itself show a strong tendency to polymerize. These observations led M. Maquenne to the conclusion that the hydrocarbon must be related to the terpenes, and, indeed, he was able to extract from turpentine a "heptine" which proved to be identical with that formed orom perseite. Finally, there was nothing in the reactions of perseite to lead one to the conclusion that the substance is either an aldehyde or a ketone.—*Am. Chem. Jour.*

That Peruvian Petroleum Field.

Certain trade journals are making a big to-do about the report of Mr. Hicks, the American Minister to Peru, who called attention to the developments being made there of a petroleum field. That there is oil in Peru has been known for a great many years, and that the increased demand for oil throughout the world leads to effort to utilize all known sources of supply is not strange. But Ministers and Consuls are not always practical men and are apt to make use of somewhat exaggerated language in connection with their oil reports. When Mr. Hicks says that the American operating in Peru has a "half dozen wells, spouting oil exactly like the famous wells in Pennsylvania," there is a mistiness of expression that indicates a man not thoroughly up in oil reporting. Whether the wells are like Pennsylvania wells or the oil is like Pennsylvania oil is left to the construction that the reader may put on the language. When a well is gushing like a Pennsylvania well, its production may be 2,000 barrels per day or it may be less than 100. When, also, the Minister says: "He is erecting a gigantic system of refineries," there is lots of room for question what he considers gigantic. Men not much acquainted with the refining business may easily regard a single still of 200 barrels capacity as a gigantic affair. That a strong effort is being made to utilize the production of the Peruvian wells as fuel on the locomotive engines of that country gives some clue as to what the "experienced American" thinks of the value of the oil when he is not talking to an official to influence his report. It is easy to say that "it seems likely to drive the American article from these markets." The "seems likely" has a vast deal of latitude to come and go on and the probability is not being verified in any marked degree as indicated by the official figures of the Treasury Department, giving the exports of refined oil from this country for the eight months ended respectively March 1, 1889 and 1890. These show considerable falling off to both Europe and to American ports, but among the latter, after enumerating British North America, Mexico, Central America, West Indies, Argentine Republic, Brazil, United States of Columbia, the item "other South American countries" appears. This of course include Peru. These show that in 1889 the shipments to the countries non-enumerated, including Peru, were $496,763, and in 1890 they were $768,536. This does not look as though those gushers and gigantic system of refineries are making much headway as yet in driving the American oil from those markets, however likely it seemed to the observant Minister at the time his report was made. Of course it is highly gratifying all the time to be told that Peru is recovering from the effects of its war with Chili. This is a happy occurence because it was about the worst whipped country of modern times and was compelled to make the most humiliating terms of peace. There is oil there, so there is in Mexico and a number of other places that could be named which have not yet been boomed by enterprising operators through willing representatives of the government abroad. It is a good thing to have reports affecting American industries, but their value depends on their accuracy, intelligent statements of facts, and absolute absence of speculative views, in each of which characteristics the report of Minister Hicks is singularly wanting.—Oil City *Derrick*.



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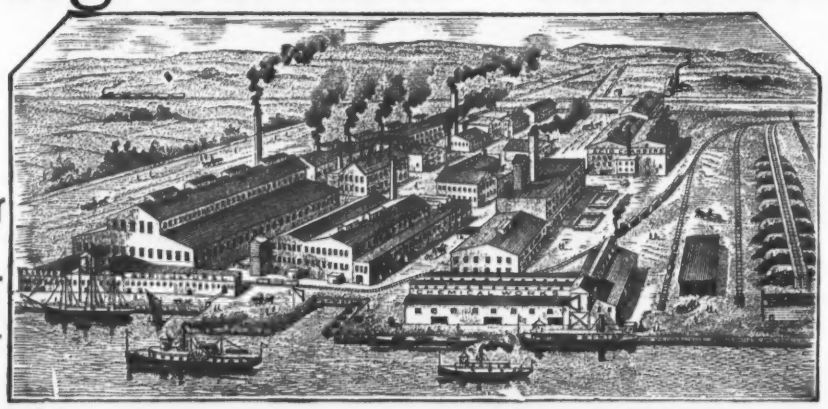

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The prices current will be found on page 46.

TUESDAY EVENING, May 20, 1890.

The general market for dyes and dyestuffs has ruled without special feature during the week under review. The progress of the tariff bill is naturally watched with interest by the several industries affected and trading for the moment except in two or three instances, seems to have been a second consideration. The textile industry is reported very quiet in all lines, namely, wool, silk and cotton, and of course this feeling has had its effect, to a greater or less extent, on the dye market. There have been no radical changes in prices, few alterations having been made, but a steady feeling, and in some instances a firmer tone, has predominated all along the line.

Aniline Colors.—A fair jobbing business has been in progress at previously quoted prices, but the market at the moment lacks animation. Salts and oil have been ruling at unchanged rates, with a moderately steady tone perceptible.

Alizarine.—Consumers continue to supply their wants in the ordinary way, and it is not possible to report a single item of special interest in the situation of affairs. Prices are identical with a week ago and are reported in buyers favor.

Albumen.—Another quiet week has been experienced in this market, small trading being exclusively indulged in. Values are unchanged, being quoted low for all grades, and stocks are ample for present requirements.

Bichromate of Potash. The trading has not improved over a week ago, and a small quantity only has changed hands since we last wrote. No change in the asking prices can be noted and the market has been without feature. Bichromate of soda has been without alteration as to values, and trading has been of the ordinary jobbing description.

Cutch. The remaining outside lots seem to have gone into strong hands, during the past week, sales of some 500 bags being given us at prices ranging from 5⅞@6¼c. As a result of these disposals, the market has shown further strength, and buyers later in the week have been unable to shade 6c., it being reported that even this figure has been refused in one instance. There are plenty of purchasers at 5⅞c., but the goods are not obtainable, as above stated. The foreign market continues to rule above ours, the quotations from Calcutta still being equal to 6¼c. About 3,000 bags left that port last month up to the 22nd, which will arrive in August, and the total quantity now on the way is estimated at some 8,000 bags, The majority of the dealers predict higher prices.

Divi divi—There has been some inquiry, but the actual business passing has been of small dimensions, owing probably to the moderate supply and the prevailing high quotations, as dealers say they could undoubtedly dispose of quite a quantity at fair prices, were the goods obtainable. No arrivals can be noted.

Dyewoods—The importers continue to hold the reins in the stickwood market, and values show no signs of depreciating. It is said that $35 was offered for a cargo of St. Marc to arrive, but the offer was refused by the holders, who look for still higher figures. The advices come strong from Hayti, while the foreign market has not receded. The sales have been limited, but 100 tons Miragoane having been disposed of, during the week, at $27. In the face of the above, the warfare on extracts continues with unabated fury and prices are "anywhere" the buyer wishes to put them. How long this will last, is a question that cannot be answered at the moment, but it seems as if something "must go," before a great while. The demand has been nominal and unimportant, and this fact is undoubtedly a blessing to the makers.

Gambier—Sales of 150 tons are given us at 6⅛@6¼c from store, and the market appears to have rather a hardening tendency, due to the fact that the statistical position of the article favors holders, as it is reported that there is only about 10,000 bales available in store, with the first sailer due in July. At the close, sellers were asking 6 3-16@6⅜c from store.

Indigo—Buyers seem to have supplied their wants from recent purchases, and the market has consequently been rather quiet, since we last wrote. Values show no change and are ruling fairly steady. Madras and Manilas have been in moderate request at previous figures, the market being absolutely without feature.

Nutgalls—There has been a little inquiry for aleppo galls, and it is estimated that some 50 bags changed hands during the week at prices in the neighborhood of quotations. There is said to be a good supply available. There has been a moderate movement in China galls during the interval, sales of probably 75 cases being given us at 17¼@17½c, the lots being of good merchantable quality, and being sold for consumption. There has been nothing of fresh interest from abroad, and beyond the above transactions, the market has continued without feature.

Prussiate of Potash—The several grades have continued to rule with a firm tone, but are without fresh feature. Trading has kept up very fair, and previous figures are quoted in all instances.

Starch—The Executive Committee of the combination, consisting of one Eastern and two Western men, has located in this city and now has full charge of the business of the concern, being in daily session. Prices have been advanced ¼c on corn, which is regarded as perfectly legitimate, in view of the small stock and the high price now asking for corn. The demand keeps up pretty fairly and has not been filled in its entirety. The other grades of starch have been unaltered, being in fair jobbing demand with stocks not in abundance.

Sumac. Recent advices report the market somewhat firmer abroad and the feeling has been reflected in the home market, though no material changes in prices can be noted. The quotations for parcels to arrive are $61, while spot lots from store are ruling at $65, with some little business doing. Virginia continues without animation, being quoted at previous figures.

Tin crystals.—Tin has appreciated somewhat, which has induced rather a firmer feeling for crystals, but no change in prices can be noted, in view of the limited demand that has prevailed.

Tar and Tar Products Industry.

Although the substances known in trade under the name of tar are, as far as their external appearance goes, much alike, their composition as well as their application, is very diverse. Lignite tar and turf tar are obtained by the dry distillation of light bituminous lignite, particularly near Weissenfels and Zeitz, in the province of Saxony. One hundred and forty kilos of lignite yield 20 kilos of tar. From the dry and fractional distillation of this tar, light oils are extracted, which are employed as illuminants under the names of photogen and solar oil. A substance separating itself when cold from the afterwards over distilled heavy oils, which is of a white, wax-like appearance, is known as paraffine. The brown oil left behind is used as paraffine oil and Vulcan oil for greasing wagons. Carbolic acid is extracted as an accessory product, whilst the residuum remaining in the retorts is made into asphalt.

Wood tar is divided into three sorts, known in trade as pine wood tar, beech wood tar and birch wood tar; they are mainly obtained as accessory products in the extraction of charcoal. From the dry distillation of knotted pine tree roots, pine tree tar is obtained; this tar is used as a rot preventer, for daubing on wood work, for cables and ropes and for caulking. When this tar is again distilled a liquid combustible oil—wood oil—is obtained, and the residuum is cobbler's pitch or ship pitch. The tar extracted from birch wood is largely produced in Russia, and is used in the preparation of Russia leather. From beech wood tar, a peculiar, volatile substance, used in medicine and otherwise, and known as creosote, is produced. It is also present in the smoke of imperfectly burning wood, and it forms the most important agent for smoking meat and other edibles.

The most important tar is that obtained incidentally in the manufacture of gas, and which is known as coal tar. Owing to the many uses to which this tar can be applied, it has almost grown to be the main product, and gas the accessory product. The first important application of coal tar in Germany was for roofing felt, for which purpose the tar has to be liberated from its volatile ingredients. Instead of extracting the latter, the tar was heated in open vessels, and it was only in 1846 that Bronner, of Frankfort-on-Main, extracted by distillation a light oil, which still continues to be used under the name of Bronner's scouring drops; it principally consists of benzine.

More or less specifically heavy oils are won in distilling the tar and catching the volatile products. The first distillates are known by the name of light oils, and the heavier and less volatile as heavy oils. The residuum is employed as artificial asphalt for roofing felt, asphalt pavement and in the varnish trade. The most volatile part of the distillate, benzol, benzine or naphtha, serves as scouring water, for lighting, and especially for the production of nitro-benzol, artificial bitter almond oil and aniline. From the heavier distilling oils anthracene and artificial alizarine (which is found in a perfect condition in madder roots) are prepared. The now well known saccharine is also produced from the heavy tar oils. After a complicated chemical treatment aniline dyes were first won from tar oils in 1856. A further tar product is naphthaline used against moths.—*Kuhlow's Review.*

Curare.

Dr. Joseph Tillie, Assistant to the Professor of Materia Medica in the University of Edinburgh, has recently published in the *Journal of Anatomy and Physiology* "A Contribution to the Pharmacology of Curare and its Alkaloids," which seems to throw more light upon the action of this drug. Somewhat divergent, or even contrary statements, have been previously published by various writers concerning the action of the curare, some maintaining

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that it paralyses the sensory nerves and spinal cord, and others that it does not, the majority of authorities agreeing that it has no stimulant or tetanic action on the spinal cord. Dr. Tillie, however, by a series of careful experiments, proves that it does possess in large doses a tetanizing action which is quickly manifested if the alkaloid be injected directly into the aorta or applied directly to the spinal cord. Owing, however, to the effect of curarine on the circulation, the part of the dose which does reach the course is generally either insufficient to produce tetanus, or it reaches it too late to overcome the weakness produced by the want of oxygenated blood. As neither strychnine nor brucine have been detected in curare, Dr. Tillie attributes both the paralysing and tetanizing action of the drug to curarine. That the tetanizing action of curare is due to the species of strychnos employed in its preparation, and not to picrotoxin or other principles derived from the various plants sometimes used with species of strychnos in the manufacture of curare, is proved by the fact that a genuine specimen of the bark of Strychnos toxifera, supplied from the Museum of the Pharmaceutical Society, Bloomsbury Square, gave the same symptoms. The bark, the crude alkaloid and the arrow poison have all been proved by Dr. Tillie to produce paralysis by a peripheral and tetanus by a central action. The suggestions by Gubler and Bartholow that methylstrychnine is formed in the process of preparing curare, is not considered probable, since no such body has been detected; its chemical characters are not those of curarine and the latter alkaloid has 85 times the paralyzing activity of methylstrychnine sulphate. It appears, therefore, that when the difficulties besetting the examination of the action of the curare on the spinal cord are avoided, curare produces tetanus just like strychnine. The two alkaloids, according to Dr. Tillie, have a converse action, small doses of curare paralyzing the motor nerves and small doses of strychnine producing tetanus, large doses of either alkaloid showing both actions in protected frogs. These results, however, do not seem to preclude the possibility of the occurence of two alkaloids, the one having a paralyzing and the other a tetanizing action (as in calabar bean), in the bark of Strychnos toxifera and other species usad in the preparation of curare. The chemistry of curarine and the changes that may take place in the natural alkaloid by heat or other agents has yet to be investigated, and this can only be done when a good supply of the bark of a given species has been obtained.

Japanese Sulphur Mines.

The export of sulphur from Hakodate shows a decrease from 7,096 tons, value, £16,917, in 1887, to 3,600 tons, value, £8,681, in 1888. This is attributable almost entirely to the fact that no vessels could be induced to call at the port to take the sulphur away, the price, delivered in Hakodate (£2 3s 6d per ton), being sufficiently high to prevent its being shipped. The shipments last year went to San Francisco.

What prevents Japan from rivalling Sicily as a sulphur-producing country is the absence of facilities for increasing the output of sulphur, and for shipping it. At present there is only one place where sulphur is worked on any scale, and that is Atosanobori, near Kushiro, on the southeast coast of the island on which Hakodate is situated.

The Atosanobori mine is part of an extinct volcano. The sulphur covers a considerable portion of the slopes of the hill and of the sides of the old crater. Supposing the ore to be only 4 or 5 feet thick on the surface, there must be at this place over 1,000,000 tons of high-class ore. Recent borings (by Japanese) give the thickness of ore as 30 feet in some places, but it is probable that the richness of the ore decreases with the depth below the surface. It would be quite safe to count upon at least 5,000,000 tons of good ore. At present the ore yields over 50 per cent. of pure sulphur, a small portion of it being almost pure. The residue from the refining kettles would well repay a second treatment, as it appears to contain a considerable percentage of sulphur, as much as 15 per cent. probably, or about the average yield of the whole of the Sicilian sulphur ore.

The present output from Atosanobori does not exceed 10,000 tons of sulphur per annum (output about 9,000 tons in 1888). The cost of the sulphur, free on board at Kushiro, would be about 30s 10d.

RECENT PATENTS.

427,564. CARBONIC ACID COMPOUND OF META-AMIDOPHENOL. Issued May 13, 1890.

Claim.—The carbonic acid compound of the meta-amidophenol, crystallizing in small white needles, melting at 148° centigrade under decomposition, easily soluble in water, alcohol and ether, difficultly soluble in benzol.

427,565. CARBONIC ACID COMPOUND OF DIMETHYL META-AMIDOPHENOL. Issued May 13, 1890.

Claim.—The carbonic acid compound of dimethyl meta-amidophenol, which crystallizes in colorless needles, melting at about 145° centigrade under decomposition, difficultly soluble in water, easier in hot alcohol, benzol and toluol.

427,620. OBTAINING PERMANENT HYDROQUINONE. Issued May 13, 1890.

Claim.—The process of obtaining a permanent or durable hydroquinone in citron-yellow crystals by recrystallizing the ordinary hydroquinone from a solution in water or any other solution in the presence of sulphuric acid, substantially as described.

428,033. ANTISEPTIC LOTION. Issued May 13, 1890.

Claim.—The herein-described medicinal compound or antiseptic lotion, consisting of carbolic acid, boracic acid, glycerine, distilled water, oil of peppermint, oil of cloves, lemon oil, tartaric acid, chlorate of potash and cochineal powder, in substantially the proportions stated, and in the manner set forth.

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